Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

Emotional Disturbances of Older People
Subarachnoid Hemorrhage
Hypnosis
Pitfalls in the Management of Labor
Post-Bulbar Duodenal Ulcer

Arthritis and the General Practitioner

Investing

Atomics for Food
Foreign Trade Outlook
Automobile Industry and Home Construction

STARTING IN THIS ISSUE:

THE MEN WHO MADE THE MEDICINE
... on historical series on the founders
of the pharmaceutical industry—see page 415





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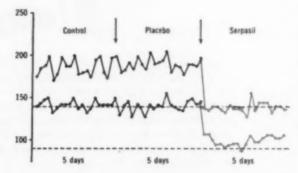


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Reference: 1, J.A.M.A. 158;386 (June 4) 1955.

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Finnerty, F. A. Jr.: New York State J. Med. 1. 2017 (Sept. 15) 1957.

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Corrin, K. M.: Am. Pract. & Dig. Treatment (# 721 May) 1957.

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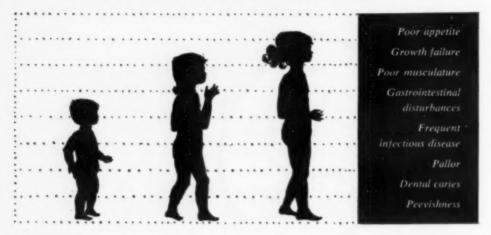
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*approximately equivalent to 340 mg. of L-lysine

Pleasant tasting, readily miscible with all liquid foods. Recommended dose: one dropperful (0.5 cc.) t.i.d. at mealtime for maximal benefit of lysine fortification. For infants, add 0.5 cc. to formula t.i.d. Shake to mix. Or, add three 0.5 cc. dropperfuls to entire day's supply of formula after mixing ingredients and before bottling.

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The daily dosage of 3 teaspoonfuls (15 cc.) one with each meal provides:

L-Lysine Mon	oh	ydro	chlo	rid	e					790 mg.
Vitamin B ₁₂					*	*	8			25 mcg.
Thiamine Hy	dro	chlo	ride	*	*	*			,	10 mg.
Riboflavin	0	0								10 mg.
Pyridoxine H	ydr	ochi	orid	le		*				2 mg.
Niacinamide					0					100 mg.
Panthenol.				*					*	20 mg.
Alcohol 59										

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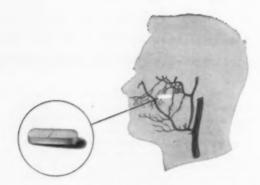
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CIBA

18a

MEDICAL TIMES



Off the Record . .

True Stories From Our Readers

Each incident described has been contributed by one of our readers. Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported German apothecary jar will be sent in appreciation for each accepted contribution.

A Fitting Needed!

It was early, on a cold, gray, January morning, not too long ago, and I was sweetly ensconced in the warmth of my soft, comfortable bed, when I was jarred to my senses. Mrs. Smith's husband was to bring in a specimen for an A-Z test at 8 A.M. and now it was exactly 7:50 A.M. I was greatly annoyed and then suddenly relieved—I would solve the matter easily, and do what any red-blooded male would do under similar circumstances.

I yelled to my wife, told her about the expected caller, pulled a piteous face, and sent her down to receive the bottle. Then, mentally, I licked my chops, turned over and drifted away.

Some time later, when I came downstairs, my wife showed me the specimen, telling me she thought there was too little, giggling all the while. When I asked her what could be so funny so early in the morning, she told me the following: "I checked the bottle to see whether the patient had put her name on it, and noticed there were just a few drops of liquid in the bottle. I told Mr. Smith that I was afraid there was not enough, and, out of curiosity, asked him why there was so little. With a serious face, looking me square in the eye—he answered: "Well, what can you expect, when the bottle has such a small opening?"

A.E.B., M.D. Brooklyn, N. Y.

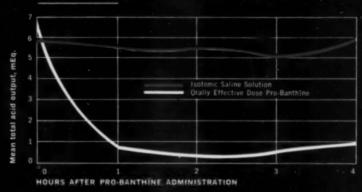
"Coffier Coffee"

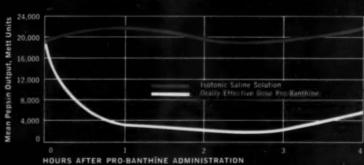
Some years ago when one of my nurses was working in the local county hospital, a patient came in because of vomiting. The intern was questioning the patient about the various aspects of the vomiting and asked for a description of the emesis material and finally asked the question, "Did it look like coffee grounds?" To which the patient, a lady, replied, "Oh, no, it couldn't be. We always use a percolator."

G.A.K., M.D. Des Moines, Ia.

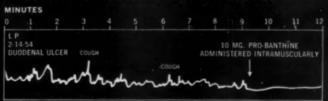
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MEAN TOTAL ACID AND PEPSIN OUTPUT AFTER INTRADUODENAL ADMINISTRATION?









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G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

1. Barowsky, H., in discussion of Barowsky, H.; Schwartz, S. A., and Lister, J.: Experience with Short-Term Intensive Anticholinergic Therapy of Peptic Ulcer, Am. J. Gastroenterol. 27:156 (Feb.) 1957.

(Feb.) 1957.

2 Sun, D. C. H., and Shay, H.: Optimal Effective Dose of Anticholinergic Drug in Peptic Uler Therapy, Arch. Int. Med. 97:442 (April) 1956.

3. Lichstein, J.; Morehouse, M. G., and Osmon, K. L.: Pro-Benthline in the Treatment of Peptic Ulcer, Am. J. M. Sc. 232:156 (Aug.) 1956.

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Yasuna, A. D., Hatpern, A.: "The Timed Integration of Stool Hydration and Peristaltic Stimulation in Constipation Correction." Am. J. Gastroenterol. 28:530 (Nov.) 1957

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Service Record

The young man had a chief complaint of urethralgia. I asked him whether he had a discharge. His response: "No, I haven't even been in the army yet."

> C.N.H., M.D. Versailles, Ky.

Why Indeed!

My 17-year-old hospital patient (a new mother) asked me why she was awakened from a sound sleep at 2 A.M. to be given a sleeping pill to go to sleep . . . when she should start front enemas on herself . . . and could she take "agitator" pills for tiredness.

M.J.R., M.D. Miami, Fla.

The Good Samaritan

For thirty odd years the writer has been a General Practitioner in the watershed area of the valley of the Swannee River, famed in song and prose as an area of romantic interests.

Even so, the flames of passion at times burn quite brightly and we do have prisons to harbor those individuals who have broken the bonds of restraint.

Several years ago the Georgia chaingang was abolished in Lowndes County and we erected a modern fire-proof structure dignified by the name of Public Works Camp. The grounds were beautified by the Ladies Auxiliary with shrubbery of orange trees, Arbor Vitae, Pyracanthea, Magnolia and other native shrubs.

I casually remarked to Henry Simpkins, the trusted prisoner who cared for the premises, that when yon Magnolia grew to be a tree and bloomed, bring me a flower and I will see that you are paroled. Henry carefully nurtured, watered, and fertilized the shrubs and with the passing of a few years, one day Henry proudly came into the office smiling, his hat in one hand and a Magnolia bloom in the other. Fortunately for me he was eligible for parole and I experienced no difficulty in having Henry Simpkins paroled to my custody and he is now living happily with his girl friend, Delilah, and is an ardent admirer of this Country Doctor.

T.C.W., M.D. Valdosta, Ga.

All in How You Look At It

Recently overheard in a physicians' waiting room: "You know, I don't like this doctor," said an elderly woman to the patient sitting next to her. "He never examines you when you consult him."

The patient addressed looked up in surprise and replied, "That's why I came to this doctor, he's so smart he doesn't have to examine you."

> Anonymous Seneca Falls, N. Y.

Philosopher

Women are immoral—my patient assured me. Proof! He told his wife that he had been out with another woman several times. Her only reply: "Who cares?"

L.W., M.D. Rensselaer, N. Y.

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- Prevention of secondary pyogenic infections due to tetracycline-sensitive organisms — which often follow viral infections of the upper respiratory tract.

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MEDICATION

in "flu," "grippe," "virus" and the common cold

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TETRACYCLINE PHOSPHATE COMPLEX WITH PHENYLTOLOXAMINE AND APC

Each TETREX-APC WITH BRISTAMIN Capsule contains:

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Cholarace tablet coating provides quick spasmolysis! Contains racephedrine HCl (20 mg.) for rapid bronchodilatation with less CNS stimulation than ephedrine alone . . . plus pentobarbital (27.5 mg.) for a quieting effect free of "barbiturate hangover".

Cholarace tablet core protects against recurrence! 200 mg. of well-tolerated, easily absorbed choline theophyllinate (Choledyl®) provides long-lasting bronchodilatation.

This means bronchospasm control with single-tablet dosage-1 Cholarace tablet q.4.h.! Cholarace rarely causes gastric irritation. For bronchospasm due to asthma, hay fever, bronchitis and pulmonary infections in general, prescribe Cholarace.

Nepera Laboratories, Morris Plains, N. J.

CHOLARACE® for complete bronchospasm control



even if your patient is a

gandy dancer



...he'll be back on the track with

FLEXILON*

bottles of 50.

FLEXING + TYLENOL®)

Low back syndromes ... sprains ... strains rheumatic pains ...

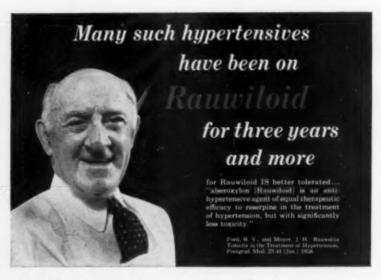
FLEXILON gets them back on the job fast.

Each tablet contains:
FLEXIN® Zoxazolamine\$ 125 mg.
The most effective oral skeletal
muscle relaxant
TYLENOL® Acetaminophen . . . 300 mg.
The preferred analgesic for painful
musculoskeletal disorders
supplied: Tablets, enteric coated, orange,

tU.S. Patent Pending *Trade-Mark

MCNEIL LABORATORIES, INC . PHILADELPHIA 32, PA.

.



No Tolerance Development Lower Incidence of Depression



After full effect one tablet suffices

For gratifying Rauwolfia response virtually free from side actions

When more potent drugs are needed, prescribe

Rauwiloid® + Veriloid®

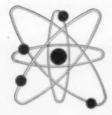
for moderate to severe hypertension. Initial dose 1 tablet t.i.d., p.c.

Rauwiloid® + Hexamethonium

in severe, otherwise intractable hypertension.

Initial dose 1/2 tablet q.i.d.

Both combinations in convenient single-tablet form.



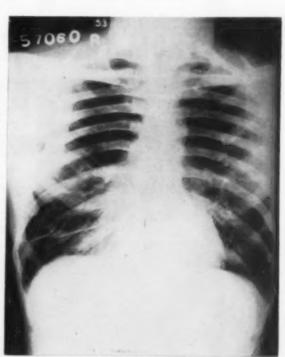
Diagnosis, Please!

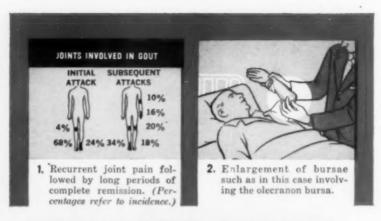
Edited by Maxwell H. Poppel, M.D., F.A.C.R.
Professor of Radiology, New York University College of
Medicine and Director of Radiology, Bellevue Hospital Center

WHICH IS YOUR DIAGNOSIS?

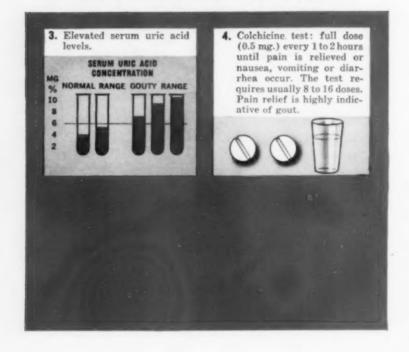
- 1. Cystic disease of the lung
- 2. Emphysematous blebs
- 3. Multiple abscesses
- 4. Congenital fibrocystic disease

(Answers on page 177a)





FROM THESE FINDINGS



...SUSPECT GOUT: R BENEMID

PROBENECIS

A SPECIFIC FOR GOUT

Once findings point to gout, long-term management can be started with BENEMID. This effective uricosuric agent has these unique benefits:

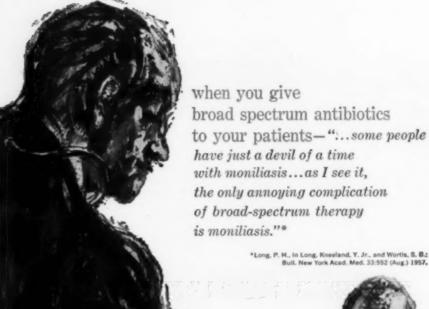
- Urinary excretion of uric acid is approximately doubled.
- · Serum uric acid levels are reduced.
- · Uric acid deposits (tophi) in tissues are mobilized.
- · Formation of new tophi can often be prevented.
- · Fewer attacks and severity is reduced.

RECOMMENDED DOSAGE: 0.25 Gm. (½ tablet) twice daily for one week followed by 1 Gm. (2 tablets) daily in divided doses.



MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

Benemid is a trade-mark of Merck & Co., Inc.



*Long, P. H., in Long, Kneeland, Y. Jr., and Wortis, S. B.; Bull. New York Acad. Med. 33:552 (Aug.) 1957.

for a direct strike at infections plus protection against monilial superinfection the best broad spectrum antibiotic to use is

THESE ARE YOUR PATIENTS WHO MAY HAVE "JUST A DEVIL OF A TIME WITH MONILIASIS"

- · debilitated patients
- · elderly patients
- · diabetics
- · infants, especially prematures
- those who developed moniliasis on previous broad spectrum therapy
- patients on prolonged and/or high dosage antibiotic therapy
- women, especially when pregnant or diabetic

Mysteclin-V provides you with a dosage form for every clinical need:

Tetracycline phosphate complex equiv. tetracycline HCI (mg.)	Mycostatin (units)	Packaging			
250	250,000	Bottles of 16 and 100			
125	125,000	Bottles of 16 and 100			
125	125,000	60 cc. bottles			
100	100,000	10 cc. dropper bottles			
	phosphate complex equiv. tetracycline HCI (mg.) 250 125	phosphate complex equiv. tetracycline HCI (mg.) Mycostatin (unita) 250 250,000 125 125,000 125 125,000			



SQUIBB QUALITY-THE PRICELESS INGREDIENT

TECLINIV

- Tetracycline Phosphate Complex (Sumycin) and Nystatin (Mycostatin)
- Mysteclin V contains Sumycin Squibb Tetracycline Phosphate. Complex—for faster, higher initial blood levels... for more rapid transport of more tetracycline to the site of the intection.
- Mysteclin-V contains Mycostatin—the first safe antifungal antibiotic
 —to protect patients against complicating mobilial overgrowth.
- 3. For practical purposes, Mysteclin-V is sodium-free.



Fostex degreases the skin and helps remove blackheads



Fostex contains a combination of surface active agents (Sebulytic*) which:

◆ Completely emulsify excess oil so that it is quickly washed off the skin.



◆ Penetrate and soften comedones, unblocking the pores and facilitating removal of sebum plugs.



Fostex dries and peels the skin

◆ The Sebulytic base of Fostex dries and promotes peeling of the skin . . . actions enhanced by the keratolytic effects of micropulverized sulfur and salicylic acid.

*(Sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate, sodium dioctyl sulfosuccinate.)

FOSTEX CREAM for therapeutic washing of skin in the initial phase of acne treatment, when maximum degreasing and peeling are desired.

FOSTEX CAKE for maintenance therapy to keep skin dry and substantially free

of comedones.

Fostex is easy for your patients to use

◆ Patients stop using soap on affected skin areas. Instead they use Fostex for therapeutic washing of the skin. The Fostex lather is massaged into the skin for 5 minutes—then rinse and dry.

Write for samples

WESTWOOD Pharmaceuticals
Division of Faster-Milburn Co. Buffalo 13, New York

relaxes both mind

muscle

without impairing mental or physical efficiency





well tolerated, relatively nontoxic no

blood dyscrasias, liver toxicity, Parkinsonlike syndrome or nasal stuffiness / well suited for prolonged therapy

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets. Usual dosage: One or two 400 mg. tablets t.i.d.

For anxiety, tension and muscle spasm in everyday practice.

Miltown

tranquilizer with muscle-relaxant action

2-methyl-2-m propyl-1,3-propanediol dicarbamate



THE ORIGINAL MEPROBAMATE

DISCOVERED & INTRODUCED BY



NEW BRUNSWICK, NEW JERSEY



Anxiety of pregnancy

'Miltown' therapy resulted in complete relief from symptoms in 88% of pregnant women complaining of insomnia, anxiety, and emotional upsets.*

'Miltown' (usual dosage: 400 mg. q.i.d.) relaxes both mind and muscle and alleviates somatic symptoms of anxiety, tension, and fear.

'Miltown' therapy does not affect the autonomic nervous system and can be used with safety throughout pregnancy."

Miltown[®]

*Belafsky, H. A., Breslow, S. and Shangold, J. E.: Meprobamate in pregnancy. Obst. & Gynec. 9:703, June 1957.



THE ORIGINAL MEPROBAMATE

DISCOVERED & INTRODUCED BY

WALLACE LABORATORIES

NEW BRUNSWICK, NEW JERSEY



What's Your Verdict?

A victim of an automobile accident was taken to the hospital where one of the physicians administered a myelographic spinal test. He became violently ill, vomited repeatedly, and suffered severe pains in his back and arms. As these pains continued in time he consulted various other doctors, but to no avail.

The injured patient consequently sued the hospital physician, contending that the spinal test was given to him without his knowledge and consent and that it was the negligence with which this test was administered that caused the pains he now suffers. The physician denied any negligence on his part, and asserts that the patient's injury is due solely to his accident, and not to any treatment administered by him.

In the morning of the trial day, a jury was impaneled and opening statements made by counsel for both sides. The plaintiff's attorney then requested a postponement until the afternoon, which was granted. When trial resumed the plaintiff was called upon to testify. A physician who had examined the plaintiff several times also testified, but he could not supply any definite information as to the cause of plaintiff's condition.

The plaintiff's attorney then requested the court to continue the court trial until the next morning due to the absence of a material witness, a physician who had been present in the morning but had to leave on an emergency call. The attorney pleaded that in the physician's absence he was unable to prove facts to sustain his case.

The court denied the request. The court stated that since the doctor was

available as a witness that morning, the attorney should have used him instead of requesting a postponement until the afternoon. The court further reminded the attorney that he had requested postponements of the trial numerous times before, thereby delaying the trial for four years.

Counsel then rested his case. Whereupon the defense attorney motioned that the case be dismissed for insufficient evidence, and his motion was granted.

On appeal, plaintiff relies mainly for reversal on the alleged error of the court in overruling his motion for continuance. How would you decide?

Answer on page 232a





FOR PROMPT, SAFE" CONTROL

OF SPONTANEOUS BLEEDING





"PREMARIN" INTRAVENOUS has been used effectively to control spontaneous bleeding as in epistaxis, post-tonsillectomy and postadenoidectomy hemorrhage, as well as pre- and postoperatively to minimize bleeding after surgery. "PREMARIN" INTRAVENOUS may be used adjunctively with other therapy.

* Bleeding was stopped, in more than 80% of 668 cases reported.4 with one 20 mg. injection of "PREMARIN" INTRAVENOUS.

** Some 400,000 injections of "PREMARIN" INTRAVENOUS have been made to date without a single report of toxicity or production of thrombi.

HOW "PREMARIN" INTRAVENOUS CONTROLS BLEEDING

Recent studies by Johnson 1,2 reveal that "FREMARIN" INTRAVENOUS controls bleeding through its effect on three important factors in the coagulation mechanism:

BASIC COAGULATION MECHANISM

PROTHROMBIN

presence of

Calcium ions Thromboplastin

ACCELERATOR GLOBULIN

converted

THROMBIN

which activates

FIBRINGGEN

form

FIBRIN (clot)

anticoagulation factor

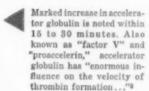
ANTITHROMBIN

(inhibits thrombin)

EFFECT OF "PREMARIN"

INTRAVENOUS

Within 15 minutes, prothrombin concentration is increased



Simultaneous reduction of antithrombin "increases the amount of potential thrombin available and also tends to make it more effective."1

"PREMARIN" INTRAVENOUS (conjugated estrogens, equine) is supplied in packages containing one "Secule" providing 20 mg., and one 5 cc. vial sterile diluent with 0.5% phenol U.S.P.

Johnson, J. F.: Proc. Soc. Exper. Biol. & Med. 94:92 (Jan.)
 1957.
 Idem: Paper presented at Symposium on Blood,
 Wayne State Univ., Detroit, Mich., Jan. 18, 1957.
 Owren,
 A.: Northwest Med. 56:31 (Jan.) 1957.
 Published and unpublished case reports.

"PREMARIN" INTRAVENOUS

The Physiologic Hemostat

In bronchial asthma therapy—

prompt effect,

lasting relief



SUS-PHRINE

AQUEOUS EPINEPHRINE SUSPENSION 1:200 for subcutaneous injection

... because of the slow absorption of the portion in suspension and rapid absorption of the portion in solution, numerous clinical reports emphasize these advantages of Sus-Phrine in the treatment of bronchial asthma:

- —is as prompt as the subcutaneous aqueous solution1.3
- —is more prolonged than the intramuscular oil suspension^{2,3}
- -is a simple subcutaneous injection3.4
- -may be easily self-administered by the patient^{2,3}
- -well-tolerated by children 1.3.4

Supplied in 5 cc. vials and packages of 12, 0.5 cc. ampuls.

Reprints listed below and sample on request.

Brewer Est. 1852

Brewer & Company, Inc., Worcester 8, Massachusetts, U.S.A.

Levin, S.: J. Ped. Clin. of N.A., 1:975 (1954).
 Noterman, H.L.: J. of Allergy, 20:64 (1953).
 Unger, A.H., and Unger, L.: Ann. of Allergy, 10:128 (1952).
 Jenkinn, C.M.: J. Not. Med. Assn., 45:120 (1953).



SMOTABLANA

RESTORATION OF FACULTIES AND BODY TONE

The mutual synergic relationship between mental perceptions of all kinds and body tone has been demonstrated.

The combined central nervous and peripheral actions of ANALEPTONE improve both mental faculties and body tone. These actions commend its use in a wide range of disorders common to aged patients.

CEREBRAL HYPOXIA - CONFUSION
- APATHY - ANTISOCIAL BEHAVIOR
- DEPRESSION - LOSS OF MEMORY
- INABILITY TO CONCENTRATE

NOTE: No side effects are observed save for occasional and transient "niacin flush" in sensitive individuals.

1. Boernstein, W. S.: Tr. New York Acad. Sci. 20:72, 1957.

ADDITIONAL REFERENCES: Smigel, J. O.: M. Times 85:149, 1957; Levy, S.; J.A.M.A. 153:1260, 1953; Thompson, L. J., and Procter, R. C.: North Carolina M. J. 15:596, 1954; Erwin, H. J.: Missouri Med. 53:1071, 1956.



REED & CARNRICK Jensey City 6, New Jensey

ANALEPTONE ELIXIR

Each teaspoonful (4 cc) contains:
Pentylenetetrani .200 mg.
Niacia .100 mg.
Peptenzyme® Elizir .q.i.

SUPPLIED: Bottles of 8 ft. oz.

DOBAGE: One-half to one teaspoonful of Elixir; one to two tablets, I to 3 or 4 times daily.

ANALEPTONE TABLETS

| Each tablet concerns: | 100 mg. | 100 mg. | 100 mg. | 100 mg. | 110,000 | 5 mg. | 110,000 | 5 mg. | 110,000 | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 10

Capillary and Vascular Integrity

and the identifiable biologically-active components of citrus

An abundance of evidence indicates the contributing role of certain identified citrus bio-flavonoids in the treatment of capillary and vascular impairment resulting from stress conditions. The stress may be imposed by nutritional deficiencies, environment, drugs, chemicals, toxins, virus, or infection.

The wide range of application embraces: inflammatory, cardio-vascular, metabolic and infectious diseases and spontaneous abortion.

The identified flavonoid chemical entities under intensive investigation are:

HESPERIDIN

ERIODICTYOL

DIOSMIN

These are incorporated in the following products manufactured exclusively by Sunkist:

Hesperidin Complex Hesperidin Purified Hesperidin Methyl Chalcone

Sources of Hesperidin

Lemon Bio-flavonoid Complex

The available source of Eriodictyol and Diosmin, found in no other citrus fruit.

Their biological activity has been demonstrated, including:

Synergism with Ascorbic Acid Potentiation of Epinephrine Independent Vasoconstrictor Action Anti-hvaluronidase Effect

Protection against (Selye) DOCA-Salt Injury resembling periarteritis Effect on Capillary Fragility

These materials are finding wide use by the medical profession as incorporated in the specialties of leading pharmaceutical manufacturers.

Sunkist Growers

PRODUCTS DEPARTMENT



PHARMACEUTICAL DIVISION . ONTARIO, CALIFORNIA

. . first in research to identify and make available the physiologically-active components of citrus fruits.

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Industrial Accident

Co-workers of a 32-year-old male suddenly heard him cry out, while pitching forward and striking his head on a drill press. This apparent mishap occurred at a new plant in a fast growing industrial area. The plant physician thought he detected a faint heartbeat and had the man rushed 10 miles to the nearest hospital. Oxygen was given continuously enroute. He was pronounced dead upon arrival.

At the scene, there was no indication that the man might have slipped. There was no suspicion of foul play. The management naturally was anxious about a possible fatal accident. The physician was concerned about whether he had done everything possible for this man, who, except for a recent cold, had enjoyed excellent health. The county coroner ordered an autopsy.

As coroner's pathologist, I examined the body, and detected the following:

- There was a 1½" laceration of the left temporal parietal area of the scalp. Very little blood appeared at the wound edges. Lips and nail beds appeared cyanotic. The man was tall and stalky but not obese.
- (2) Gross examination revealed marked atherosclerosis of the aorta and severe coronary scle-

rosis. A fresh thrombus occluded the descending branch of the left coronary. There was no skull fracture or any brain pathology.

(3) Microscopically, the heart showed little except for rare perivascular lymphocytes and partial fatty replacement of myofibrils of the right ventricle.

Had this patient not been autopsied, he might have been classified as a fatal industrial accident. Interestingly, two of his brothers had died of "heart attacks" at a similar age.

> Pathologist, Salem City Hospital, acting for the coroner of Columbiana County



Announcing...

a new
orally effective
antibiotic derivative

CYCLAMYCIN

Triacetyloleandomycin, Wyeth

*Trademar

for reliable, consistent answers to many of your antibiotic treatment problems





THESE PROBLEMS:

e resistant infections, especially staphylococcal

CYCLAMYCIN — effective in many infections caused by bacteria resistant to erythromycin, the tetracyclines, penicillin, streptomycin; particularly useful against many resistant staphylococci (about 70-75% of erythromycin resistant staphylococci are susceptible)

common infections

CYCLAMYCIN — effective in many of the common infections due to gram-positive organisms (staphylococci, streptococci, pneumococci); also against some gram-negative organisms (gonococci, Haemophilus influenzae)

untoward reactions

CYCLAMYCIN — has not caused serious sensitivity or toxic reactions such as anaphylaxis, micrococcal enteritis, or blood dyscrasias

THESE ADVANTAGES:

- reliable blood levels -high, rapid, sustained
- readily and reliably absorbed (stable in gastric secretions—no enteric coating to interfere with absorption)
- well-tolerated

SUPPLIED:

Capsules, 125 and 250 mg, bottles of 36. Oral Suspension, 125 mg, per 5 cc. bottles of 2 ft. oz. Also available: Oleandomycin Phosphate, Wyeth, for intravenous administration—as a dry powder for reconstitution—each vial contains 500 mg. of oleandomycin base as the phosphate salt.

PSORIASIS



Proved Clinically Effective Oral Therapy —
maintenance regimen may keep patients lesion-free.

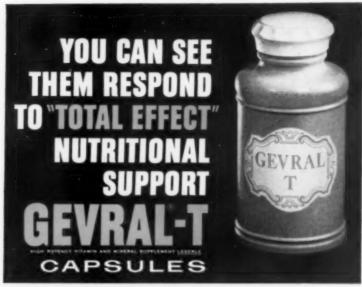
COMPLETE LITERATURE AND REPRINTS UPON REQUEST. JUST SEND AN Rx BLANK.

LIPAN

LIPAN Capsules contain: Specially prepared highly activated, desiccated and defatted whole Pancreas: Thiamin HCl, 1.5 mg. Vitamin D, 500 I.U.

Available: Bottles 180's, 500's.

Spirt & Co., Inc.



For a really rapid response in debilitated patients, prescribe new GEVRAL T, the unique "total effect" nutritional supplement. Actually six nutritive formulas in one, each high potency GEVRAL T Capsule includes:

A COMPLETE, HEMATINIC SUPPLEMENT... including non-inhibitory intrinsic factor for enhanced B₁₂ absorption, plus Folic Acid, Vitamin C, and Iron.

ALL THE FAT-SOLUBLE VITAMINS . . . including Vitamin K . . . in ample amounts.

A COMPLETE B-COMPLEX COMPONENT . . . in high dosage quantities.

AMINO ACID SUPPLEMENT, I-Lysine . . . for fuller utilization of ingested protein.

LIPOTROPIC FACTORS, CHOLINE & INOSITOL

12 IMPORTANT MINERALS & TRACE ELEMENTS

Your patients get even more nutritional support for their money with economical Gevrat. T. . . supplied in an attractive, on-the-table jar.

Fach cansule contains:

Euch cupsure contains;
Vitamin A 25,000 U.S.P. Units
Vitamin D 1,000 U.S.P. Units
Vitamin B ₁₂ 5 mcgm.
Thiamine Mononitrate (B ₁) 10 mg.
Riboflavin (B ₂) 10 mg.
Pyridoxine HCl (Ilg) 2 mg.
Vitamin E
(as tocopheryl acetates) 5 l. U.
Vitamin K (Menadione) 2 mg
Ascorbic Acid (C) 150 mg.
Calcium Pantothenate 5 mg.
Niacinamide 100 mg.
Folic Acid 1 mg.
Calcium (as CaHPO ₄) 107 mg.
Phosphorus (as CaHPO ₄) 82 mg.
Iron (as FeSO ₄) 15 mg.
Magnesium (as MgO) 6 mg.
Potassium (as K2SO4) 5 mg.
Iodine (as KD 0.15 mg.
Boron (as NagB4O7+10H2O) 0.1 mg.
Copper (as CuO) 1 mg.
Manganese (as MnO ₂) 1 mg.
Fluorine (as CaF ₂) 0.1 mg.
Zinc (as ZnO) 1.5 mg.
Molybdenum
(as Na ₂ MoO ₄ , 2H ₂ O) 0.2 mg.
Choline Bitartrate 25 mg.
Inositol
1-Lysine Monohydrochloride 25 mg.
Rutin 25 mg.
Purified Intrinsic Factor
Concentrate 0.5 mg.

DOSAGE: 1 capsule daily for the treatment of vitamin and mineral deficiencies, or more as indicated.

SUPPLIED: Bottles of 100 capsules.

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, N.Y.





manages both the psychic and somatic symptoms

relieves emotional stress in the menopause and treats somatic disturbances due to ovarian decline

Milprem^{*}

SUPPLIED: Bottles of 60 tablets.

Conjugated Estrogens (equine) 0.4 mg

DOSAGE: One tablet t.i.d. in 21-day courses with one week rest periods. Should be adjusted to individual requirements.

Literature and samples on request.

WALLACE LABORATORIES, New Brunswick, N. J.

CHP-6670-98

Akter Hours



Photographs with brief description of your hobby will be welcomed. A beautiful imported German apothecary jar will be sent to each contributor.

I have read your "After Hours" write up with great interest. It is always nice to know that doctors can and do accomplish many other things besides the practice of medicine. We have always had the reputation of being one-sided and narrow individuals. It is often said that doctors cannot assemble without discussing medical subjects that are not only boring but cannot be participated in by nonmedical people.

I am very busy before and after my medical day. When I say "I" really I mean "we." Our entire family operates a quarter horse ranch. Mrs. McNeely, my oldest son George Jr. age 19, my daughter Kristine age 15, and my youngest son Tim age 7. We breed, raise, train, brand and sell registered

quarter horses. There is no one else involved in our ranching. We do all our own feeding. We build our own fences, barns, etc.

Many of my colleagues play golf for

recreation which is fine but about five years ago I gave up the game. It wasn't the fun I really wanted during "after hours." Anyway, I was always getting beat and when the score was tallied on the 19th hole guess who paid for the lemonade?

I am 45 years of age and I believe I'll be able to ride a horse long after my colleagues will have to stop playing golf. I am quite sure there is plenty of good exercise in horseback riding and probably less danger in developing the early coronary. However be that as it may I practically have a vacation every day going to the ranch which is only a five minute drive from our house.

G. B. McNeely, M.D. Bloomington, Ill.

AZOTREX is the only urinary anti-infective agent combining:

> (1) the broad-spectrum antibiotic efficiency of TETREX—the original tetracycline phosphate complex which provides faster and higher blood levels;

> > (2) the chemotherapeutic effectiveness of sulfamethizole—outstanding for solubility, absorption and safety;

> > > (3) the pain-relieving action of phenylazodiamino-pyridine HCI —long recognized as a urinary analgesic.

control of urinary

through comprehensive

Literature and clinical supply on request



AZ

LABORATORIES INC., SYRACUSE, NEW YORK

This unique formulation assures faster and more certain control of urinary tract infections, by providing comprehensive effectiveness against whatever sensitive organisms may be involved. Indicated in the treatment of cystitis, urethritis, pyelitis, pyelonephritis, ureteritis and prostatitis due to bacterial infection. Also before and after genitourinary surgery and instrumentation, and

In each AZOTREX Capsule: TETREX (tetracycline phosphate complex)....125 mg.

for prophylaxis.

Sulfamethizole250 mg. Phenylazo-diamino-

pyridine HCI50 mg. Min. adult dose: 1 cap. q.i.d.

tract infections

tetracycline-sulfonamide-analgesic action

OUT AX

DIUR (CHLOROTHIAZIDE)

in

EDEMA

Start therapy with one or two 500 mg. tablets of 'DIURIL' once or twice a day.

BENEFITS:

- The only orally effective nonmercurial agent with diuretic activity equivalent to that of the parenteral mercurials.
- Excellent for initiating diuresis and maintaining the edema-free state for prolonged periods.
- Promotes balanced excretion of sodium and chloride—without acidosis.

Any indication for diuresis is an indication for 'DIURIL':

Congestive heart failure of all degrees of severity; premenstrual syndrome (edema); edema and toxemia of pregnancy; renal edema—nephrosis; nephritis; cirrhosis with ascites; drug-induced edema. May be of value to relieve fluid retention complicating obesity.

SUPPLIED: 250 mg. and 500 mg. acored tablets 'DIURIL' (chlorothiazide); bottles of 100 and 1,000, 'brunk' and 'invessing' are trade-marks of Merck & Co., Inc.



MERCK SHARP & DOHME Division of MERCK & CO., INC., Philadelphia 1, Pa.



as simple as 1-2-3 in

HYPERTENSION

- INITIATE 'DIURIL' THERAPY
 'DIURIL' is given in a dosage range of from 250
 mg. twice a day to 500 mg. three times a day.
- ADJUST DOSAGE OF OTHER AGENTS
 The dosage of other antihypertensive medication (reserpine, hydralazine, etc.) is adjusted as indicated by patient response. If the patient is established on a ganglionic blocking agent (e.g., 'IN-VERSINE') this should be continued, but the total daily dose should be immediately reduced by 25 to 50 per cent. This will reduce the serious side effects often observed with ganglionic blockade.
- ADJUST DOSAGE OF ALL MEDICATION
 The patient must be frequently observed and careful adjustment of all agents should be made to determine optimal maintenance dosage.

BENEFITS:

- . improves and simplifies the management of hypertension
- markedly enhances the effects of antihypertensive agents
 reduces dosage requirements for other antihypertensive agents—often below the level of distressing side effects
- amooths out blood pressure fluctuations

INDICATIONS: management of hypertension

Smooth, more trouble-free management of hypertension with 'DIURIL'





new! multiple dose vials for immediate effect always carry one in your bag

Also available: tablets, ampuls, Spansule® sustained release capsules, syrup and suppositories.

Smith Kline & French Laboratories, Philadelphia *T.M. Reg. U.S. Pat. Off. for prochlorperazine, S.K.F.



Medical Teasers

A Challenging Crossword Puzzle for the Physician

(Solution on page 208a)

ACROSS

- 1. Unborn child
- 6. Small amount
- II. Central nervous system
- 14. Any substance capable of acting upon the organism
- 15. A blood corpuscle
- 16. Strike
- 17. Hot alcoholic drink
- FR. Frudes
- 19. Suffix denoting a salt or astar
- 20. Aged
- 22. Ichthyology (abbr.)
- 23. Paradise
- 14. A unit of air pressure
- 27. Organ of hearing
- 29. Intestinal (comb. form)
- 31. Respires
- 14. Beverage
- 35. Skills
- 36. Cessation of respiration
- 18. Black, viscid liquid
- 41. Work
- 42. Scrub
- 43. Planter surface
- 44. Age
- 45. Entomology (abbr.)
- 46. C2
- 47. --- rge, Sweden
- 48. Not positive
- 51. Without a fetus
- 54. Born
- 55. Mesh fabric
- 56. Collection of women
- 57. Lablum
- 60. Attempt
- 62. Reproductive cells
- 63. Tip again
- 45. Spot of healthy tissue in a diseased area
- 69. A color
- 70. A contemptible person
- 71. Artist's tool
- 72. -matode, enteric worm
- 73. Property
- 74. Swelling

DOWN

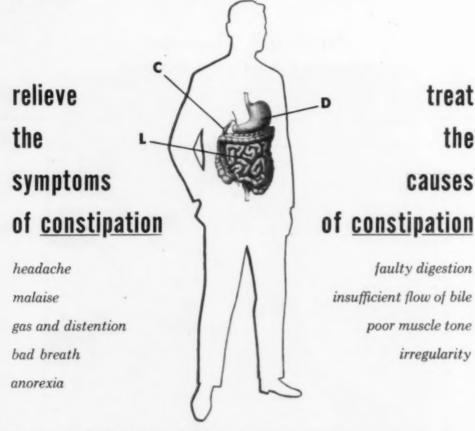
- 1. Corpulent
- 3. Spread for drying

(Vol. 86, No. 3) March 1958

by Alan A. Brown

- 5. A slender probe
- 6. Definite article
- 7. West egton, Artist of the
- 8. Derived from ammonia
- 9. Rubber tube
- 10. Editors (abbr.) II. Reproach
- 12. Potassium nitrate
- 13. Contracted (prefix)
- 21. Disordered action of the heart (abbr.)
- 23. Greek letter
- 24. Lessen
- 25. Mistake
- 26. Meshworks of nerve fibers
- 28. Respond to a stimulus
- 30. --- r, close
- 32. -eep, dozing
- 33. Curette
- 37. A divine spirit

- 38. Poison
- 39. Vital
- 40. Place again
- 42. Standard chart for eye examinations (pl.)
- 45. Peron's wife
- 47. Pig pen
- 49. Procure
- 50. Micro-organism which grows in air
- 51. Miscarry
- 52. Hyperpyrexia
- 53. Elude
- 58. Inflammation (suffix)
- 59. Wind-, Trachea
- 61. Three feet
- 63. Right sacro-anterior (abbr.)
- 64. Domesticated animal
- 66. To petition
- 67. Distinctive doctrine
- 68. -w. G.B.S.



Caroid and Bile Salts tablets help correct:

Faulty digestion - The enzyme, Caroid, improves protein digestion up to 15%.

<u>Insufficient flow of bile</u> – Bile salts increase the flow of bile to maintain normal water balance in the colon for soft, well-formed stools – and to improve fat digestion.

<u>Poor muscle tone</u> - Two gentle laxatives working synergistically provide mild stimulation of the upper and lower bowel.

<u>Irregularity</u> - Caroid and Bile Salts with its **(D)** digestant **(C)** choleretic **(L)** stimulant laxative action encourages return to normal daily bowel function.

AMERICAN FERMENT COMPANY, INC. . 1450 BROADWAY, NEW YORK 18, N.Y.

CAROID and BILE SALTS TABLETS ON REQUEST

make it a routine practice to have only "regular" patients

New

liquid pediatric analgesic-antipyretic

Liquiprin

for children

safer than aspirin, easier to use

for infants' and children's fever, discomfort of colds, minor aches and pains and following immunizations.

LIQUIPRIN is a suspension of salicylamide—chemically and pharmacologically distinctive from aspirin and other salicylates. Clinically, its analgesic-antipyretic action is approximately the same as that of aspirin, but its therapeutic action does not depend on conversion to salicylate, salicylic acid or their metabolites.

LIQUIPRIN offers these major advantages:

- 1 safer than aspirin
- 2 less gastric irritation
- 3 helps calm the feverish, fretful child
- 4 easier on the child with gastrointestinal upset
- 5 more rapidly absorbed
- 6 relieves minor aches and pains-reduces fever

administration: Convenient liquid form, pleasant taste and calibrated dropper make for easy accurate administration... directly from dropper or mixed with fruit juice, formula or milk. Each ½ dropper contains 1¼ gr. of salicylamide.

dosage: ½ dropper for each year of age, not to exceed 2 droppers (5 gr.).



added safety: LIQUIPRIN is supplied in non-spill safety bottles. LIQUIPRIN is safer than aspirin—and made safer stiff because children cannot pour or drink the medication from this new, exclusive safety container.

available: bottles of 50 cc., 1 gr. salicylamide per cc.

bettering baby care through specialized research

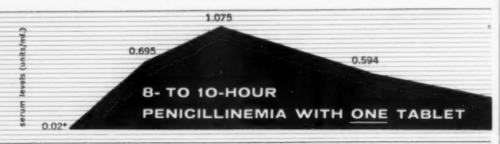
*THADEWARE FOR SALICTLABIDE SUSPENSION JOHRSON & JOHNSON

Johnson-Johnson

NEW ... from Wyeth

TIMED-RELEASE

SUSTAINED 24-HOUR LEVELS



*Bactericidal concentration for Group A beta-hemolytic streptococci-experimental infections in mice (Eagle, H., and others: Am. J. Med. 9:280 [Sept.] 1950).



hours

0



This advertisement conforms to the Code for Advertising of the Physicians' Council for Information on Child Health.

ORAL PENICILLIN

PEN-VEE LA Penicillin V, Crystalline, Wyeth

WITH ONE TABLET q. 8 HOURS

0.265 0.132 0.054 0.004

- · permits fewer doses
- · gives immediate blood levels

(Phenoxymethyl Penicillin)

 prolongs blood levels with one tablet q. 8 hours

8

· resists gastric destruction

Supplied: Tablets, 250 mg. (400,000 units), vials of 24.

a new continuous-action principle

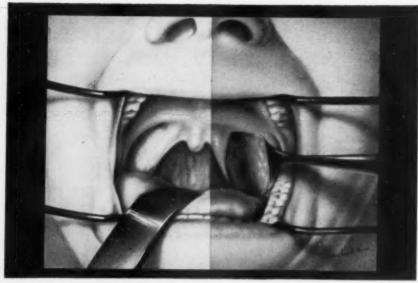
2-layer tablet

The penicillin V in this half is rapidly released and absorbed—gives immediate blood levels

The penicillin V in this half is slowly released and absorbed—gives protracted blood levels



12



Now-

"A BACTERIOSTATIC BATH"*

Controls Oropharyngeal Infections and Relieves Discomfort Quickly

Chewing ORABIOTIC releases a soothing flow of saliva laden with two locally potent and complementary antibiotics-neomycin and gramicidin-plus a topical analgesic, propesia, which is more effective than benzocaine.

NON-SENSITIZING AND NON-IRRITATING.



For the relief of postoperative discomfort and the prevention of nec-ondary bemorrhage following tonsillectomy. Valuable also as a topical adjunct to systemic treatment of bacterial infections of the mouth and throat.

for topical treatment or prophylaxis

EACH TROCHE CONTAINING: neomycin 3.5 mg., gramicidin 0.25 mg., and propesin 2.0 mg.

IN PACKAGES OF 20. One troche chewed for 10-15 min. q. 4h.

WHITE LABORATORIES, INC., KENILWORTH, N. J. *Granberry, C., and Beatrons, W. P.: The Effect of an Antibiotic Chewing Tracke on Post-Tonsillectomy Morbidity, E. E. N. T. Monthly (May) 1957.



Who Is This Doctor?

He was born in the family of a farmer at Schvelbein in Pomerania, which was then part of Germany, in 1821. In 1839 he was accepted to the Friedrich-Wilhelms Institute in Berlin which provided free medical education to a number of students in return for later employment as army doctors. While studying there he came under the influence of the great embryologist, Johannes Mueller.

Upon his graduation in 1843 he received an appointment as an assistant surgeon at the Charité Hospital in Berlin.

In 1847 he became a Privatdozent at the University of Berlin and founded together with Reinhardt the "Archives for Pathological Anatomy and Physiology," which he carried on alone after his collaborator's death in 1852.

Having shown open sympathy for democratic ideas, he was obliged for political reasons (Revolution of 1848) to leave Berlin and retire to the seclusion of Wuerzburg. It was there that the terms "cellular pathology" and "omnis cellula e cellula" (each cell stems from another cell) were first given to the medical world in his "Archives."

In 1856 he was recalled to the University of Berlin to occupy the chair of pathological anatomy. As a director of the Institute of Pathology he organized a research center.

In the field of politics, he was influential in the formation of the German Progressive Party and was elected its representative to the Prussian lower house in 1861. He became a vigorous antagonist of Bismarck and the leader of the opposition. His political influence declined as the war with France broke out in 1870 and he devoted himself again to medical work. He was made rector of the University of Berlin in 1893, at the age of 71. In 1902 he broke a femur while alighting from a streetcar and died from the complications of this injury.

He made important contributions to histology and morbid anatomy and to the study of particular diseases. He postulated that the primary units of life are the individual cells of the animal body.

In addition to being an anthropologist, sanitarian and a leading liberal statesman of his time, he is considered by many as the "father of pathology."

Can you name this doctor? Answer on page 202a.





when confronted with one or more symptoms of cow's milk allergy ...

eczema, asthma, persistent rhinitis, by perirritability, colic, diarrhea, vomiting (pylorospasm), cough, nasal stuffiness



trial replacement with MULL-Soy permits rapid, rational, and "painless" diagnosis



continued feeding of a MULL-Soy formula ensures effective therapy and sound nutrition



WHIM MULL-SOY®

now as easy and pleasant to use as evaporated milk ... in 151/2-fl.oz. tins at all drug outlets. Also available - MULL-Soy Powdered, in 1-lb. tins.

THE BORDEN COMPANY PRESCRIPTION PRODUCTS DIVISION 350 MADISON AVENUE, NEW YORK 17 . MULL-SOY . BREMIL . DRYCO . BETA LACTOSE . KLIM a new superior skeletal muscle relaxant PARAFLEX

specific for painful muscle spasm arthritic • rheumatic • traumatic

a new skeletal muscle relaxant for long-lasting relief with practical dosage

PARAFLEX*

PARAFLEX Chlorzoxazone is 5-chlorobenzoxazolinone, a completely new skeletal muscle relaxant. Acting on the spinal cord, Paraflex selectively depresses the multisynaptic reflex arcs which maintain painful muscle spasm. In the treatment of arthritic, rheumatic or traumatic disorders in which spasm is present, Paraflex provides the physician with an unmatched combination of specific, practical and clinically important advantages.

effective action Clinicians report: Paraflex was found to be a most effective muscle relaxing drug.¹ Improvement was noted in advanced osteoarthritis involving the spine as measured by decrease in muscle spasm and lessening of pain.² Symptoms were at least partially alleviated in all patients treated.³ Therapy with Paraflex provided gratifying relief—no side effects were noted.⁴

long-lasting relief An investigator reports on 148 cases: In most patients, the beneficial effects of Paraplex persisted for approximately six hours.

practical dosage Dosage of Paraflex is usually only one or two tablets, three or four times a day. In experimental studies, Paraflex was from one and one-half to three times as potent as other commonly used muscle relaxants.

Side effects rare. In a comprehensive study, not one of 148 patients treated with PARAFLEX had to discontinue therapy because of side effects. To date no side reactions have been encountered. Side effects are uncommon and seldom severe enough to require discontinuation of the drug.

Clinical results with PARAFLEX

Investigator	Diserder	Humber of Patients Treated	Number of Patients Benefited	Comment
Wiesel ^a	advanced osteoarthritis	12	10	less muscle spesm and pain
Holley ^a	wry neck, cervical spondylitis, and disc syndrome	10	10	improvement, ranging from some amelioration of symptoms to profound relief
Settoi ^a	acute low back pain, acute traumatic myofascitis, or osteoarthritis	15	14	response excellent in nine, good in five
Passarelli*	degenerative and rheumatoid arthritis	9	9	improvement, with less stiffness and freer motion
Passarelli ^a	varied arthritic, rheumatic, and traumatic disorders			less stiffness, less poin
Totals:	The same of	52	40	I Table 1 - 1/4

dosage Paraflex is administered orally in the form of 250 mg. scored tablets. Relief may frequently be obtained on a dosage of one tablet (250 mg.) three or four times a day. Initial dosage for severe muscle spasm should be two tablets (500 mg.) three or four times a day. If adequate response is not obtained with this dose, it may be increased to three tablets (750 mg.) three or four times a day. As improvement occurs, dosage can usually be reduced.

Brochure available on request.

supplied Tablets, scored, orange, bottles of 50. Each tablet contains Paraflex, 250 mg.

rescription (2) Missel, L. L., Personal communication. 3) Holley, H. L., Personal communication. 4) Settel, E., Personal communication. 5) Peak, W. P., and Smith, R. T., to be published. 6) Passarelli, E. W., Personal communication.

*Trade-mark

†U.S. Patent Pending



LABORATORIES, INC. PHILADELPHIA 32, PA.

172881



OF THOSE 107 PATIENTS YOU'LL SEE THIS WEEK"...







MAY DO BETTER IF YOU ADD



VITERRA

Nutritional supplementation may not be necessary for those who come to you for school certificates or ingrown toenails. But the great majority - about 75% - of all patients need your help in meeting the increased metabolic demands of illness. Give them VITERRA, the comprehensive supplement of vitamins and minerals. See how much better they will do.

*average of patients and indications seen in general practice. Source: independent research organization; name on request.



Each VITERRA capsule contains:

Vitamins

Vitamin A (Palmitate) 5,000 U.S.P. Units Vitamin D (Irradiated Ergosterol) 500 U.S.P. Units Vitamin B 12 U.S.P. 1 mcg. Thiamin Hydrochloride U.S.P. 3 mg. Riboflavin U.S.P. 3 mg. Pyridoxine Hydrochloride U.S.P. 0.5 mg. Niacinamide U.S.P. 25 mg. Ascorbic Acid U.S.P. 50 mg. Calcium Pantothenate 5 mg. Vitamin E (from mixed tocopherols concentrate) 3.7 i.U.
Minerals
Calcium (from Dicalcium Phosphate) 213 mg. Cobalt (from Cobaltous Sulfate) 0.1 mg. Copper (from Cupric Sulfate) 1 mg. Iodine (from Potassium Iodide) 0.15 mg. Iron (from Ferrous Sulfate) 1 mg. Manganese (from Manganous Sulfate) 1 mg. Magnesium (from Magnesium Sulfate) 6 mg. Molybdenum (from Sodium Molybdate) 0.2 mg. Phosphorus (from Dicalcium Phosphate) 165 mg. Potassium (from Zinc Sulfate) 5 mg. Zinc (from Zinc Sulfate) 1.2 mg.
Dosage: usually one capsule daily.

Also available as VITERRA TASTITABS® (ideal for children) and VITERRA THERAPEUTIC (for high potencies).

LETTERS To The Editor

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers who are invited to comment on controversial subjects, names will be omitted when requested.

Shakespeare Said It

I don't think I have ever come across a more apt description of the tranquilizers so widely used today than the one contained in the article titled "Fear" (December, 1957).

"Sweet oblivious antidote" — that really sums it up. It's hard to beat Shakespeare, isn't it?

Incidentally, I thought the article as a whole was very good, being down-toearth and practical.

> R.L., M.D. Philadelphia, Pa.

The full quotation, from "Macbeth," quoted by author J. M. Kenyon, M. D., was: "Canst thou not minister to a mind diseased, pluck from the memory a rooted sorrow, raze out the written troubles of the brain, and with some sweet oblivious antidote cleanse the stuffed bosom of that perilous stuff which weighs upon the heart?"

Accolade

Just a few words of praise from a GP who has to squeeze in time for reading . . . I read your journal each month and find it very helpful. Keep up the good work.

L.P., M.D. Los Angeles, Calif. for the peak
of analgesic efficiency

DILAUDID

Dosage Forms
Dilaudid hydrochloride:

Ampules: I cc., 2 mg. and 3 mg. each.

Hypodermic Tablets: 2, 3 and 4 mg. each.

Oral Tablets: 2.7 mg, each.
Multiple Dose Vial: 10 cc.
2 mg. Dilaudid sulfate per cc.

* Subject to Federal nercotic regulations Dilaudid®, E. Bilhuber, Inc.

KNOLL PHARMACEUTICAL CO.
Orango, New Jersey

where there's a cold there's

CORICIDIN

when it's a simple cold



CORICIDIN® TABLETS

when it's an all-over cold



CORICIDIN FORTE

CAPSULES

when infection threatens the cold



CORICIDIN with PENICILLIN

when pain is a dominating factor



CORICIDIN with CODEINE

(gr. 1/4 or gr. 1/2) TABLETSO

when children catch cold



CORICIDIN MEDILETS®

when cough marks the cold



CORICIDIN SYRUP

ONarcotic for which oral R is permitted

© Exempt narcotic

SCHERING CORPORATION . BLOOMFIELD, NEW JERSEY

CN-J-228



don't let them broadcast colds

turn off the cough with

CORICIDIN SYRUP

monitors the cough and the cold in children and adults

Solvering



colds and fever take flight like magic

with

CORICIDIN' MEDILETS'

(no caffeine)



color-flecked tablets for relief of sneezes, sniffles, congestion and fever of children's colds

Schering

SCHERING CORPORATION . BLOOMFIELD, NEW JERSEY CR. J. 428



CORICIDIN FORTE

on Rx only

for "get-up-and-go"

METHAMPHETAMINE

• buoys spirits • potentiates pain relief • aids decongestive action

for stress support VITAMIN C

• supplements illness requirements • bolsters resistance to infection

for extra relief ANTIHISTAMINE

• higher dosage strength • optimal therapeutic benefit • virtually no side effects Each red and yellow Coricidin Forte Capsule provides;

(chlorprophenpy) Salicylamide						,	0.19	Gm.
Phenacetin .							0.13	
Caffeine .			0				30	mg.
Ascorbic acid							50	mg.
Methampheta	m	in	e					
hydrochlori	de	0			,		1.25	mg.
0 5 1						100	 	

On Rx and cannot be refilled without your permission

dosage

One capsule every four to six hours.

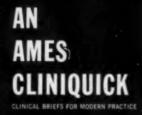
packaging

Bottles of 100 and 1000.

CORICIDIN, B brand of analgesic-antipyretic.

SCHERING CORPORATION - BLOOMFIELD, NEW JERSEY

Sche in





just wet ... and read

does proteinuria occur more frequently in any type of heart failure—myocardial hypertrophy, mitral valve, coronary artery, aortic valve or hypertensive heart disease?

No. The incidence of proteinuria is about equal among the various types of cardiac patients in failure.

Source-Race, G. A.; Scheifley, C. H., and Edwards, J. E.: Circulation 13:329, 1956.

first colorimetric test for proteinuria

ALBUSTIX

Reagent Strips. Bottles of 120.

also available as:

ALBUTEST Reagent Tablets. Bottles of 100 and 500.



AMES COMPANY, INC • ELKHART, INDIANA
Ames Company of Canada, Ltd., Toronto



Mediquiz

These questions are from a civil service examination recently given to candidates for physician appointments in municipal government.

Like to see how you would fare? Answers will be found on page 86a.

1. Papilledema is most apt to occur with coma due to: (A) morphine intoxication; (B) carbon monoxide poisoning; (C) subdural hematoma; (D) acute yellow atrophy of the liver.

2. The drug of choice in treatment of ventricular tachycardia is: (A) quinidine; (B) digitoxin; (C) digoxin; (D) methacholine (mecholyl).

3. Recurrences of active rheumatic fever are best prevented by: (A) tonsillectomy; (B) sulfadiazine; (C) cortisone; (D) acetylsalicylic acid.

4. The cardiac output is increased in: (A) arteriosclerotic heart disease; (B) myxedema; (C) anemia; (D) hypertensive vascular disease.

5. Diagnosis of anginal syndrome is best made by: (A) history; (B) electrocardiogram; (C) fluoroscopy; (D) physical examination.

 A 50-year-old man with proven pneumococcal pneumonia had a good initial response to penicillin therapy but, four weeks after onset of pneumonia, a segment of the involved lobe remains consolidated and some fever and cough persist. Of the following, the course of action which should be followed is to:

(A) give patient a course of aureomycin;

(B) test pneumococci from patient to see if they are resistant to penicillin;

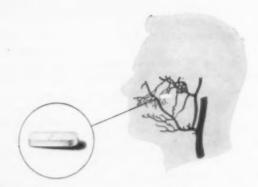
(C) bronchoscope patient;

(D) prescribe bed rest with periodic x-ray examinations since this probably is a slowly resolving pneumonia.

7. A 40-year-old colored male enters the hospital complaining of fever, malaise, weakness, abdominal distension, watery non-foul diarrhea and weight loss for four months. Examination reveals dehydration, disorientation, slight nuchal rigidity, lungs clear to auscultation and percussion, and a sense of nodulation with some tenderness within the entire abdominal cavity. White blood count is normal. Hemoglobin is 11 gm. per 100 cc. Chest film reveals punctate nodulation in both lung fields.

-Continued on page 75a

potent oral androgen*



Metandren Linguets take advantage of buccal vascularity for efficient absorption into capillaries and lymphatic vessels. No need to inject androgens. You can prescribe METANDREN® (methyltestosterone U.S.P. CIBA) LINGUETS® (tablets for mucosal absorption CIBA) whenever this hormone is indicated: in males—climacteric, impotence, angina pectoris; in females—menopause, dysmenorrhea, functional uterine bleeding; in both—for anabolic effects in cachectic states and growth failure. Supplied: Linguets, 5 and 10 mg.

CIBA

MEDICAL TIMES



In the majority of 112 cases of acute, persistent or relapsing urinary tract infections "nitrofurantoin [FURADANTIN] was effective clinically, with a pronounced improvement, indicated by the appearance of the urine as well as by verbal commendation by the patient, within 24 to 36 hours . . . Some of these patients with seemingly impossible cases were cured of their infection."

Furadantin first because of these advantages: a specific for urinary tract infections • rapid bactericidal action • negligible development of bacterial resistance • nontoxic to kidneys, liver and blood-forming organs.

AVERAGE DOSAGE: ADULTS—four 100 mg. tablets daily; 1 tablet during each meal and 1 on retiring, with food or milk. In acute, uncomplicated infections, 50 mg. q.i.d. may be prescribed. If patient is unresponsive after 2 to 3 days, increase dose to 100 mg. q.i.d.

CHILDREN-5 to 7 mg. per Kg. (2.2 to 3.1 mg. per lb.) per 24 hours.

SUPPLIED: Tablets, 50 and 100 mg. Oral Suspension (25 mg. per 5 cc. tsp.).

*Stewart B. L., and Rowe, H. J. J. Am. M. Ass. 160 1221, 1956.



EATON LABORATORIES, NORWICH, NEW YORK

Nitrofurans - a new class of antimicrobials - neither antibiotics nor sulfonamides



Happy Jeanette, aglow with health, is a Baker's Blue Ribbon Baby.

BAKER'S MODIFIED MILK BUILDS BLUE RIBBON BABIES

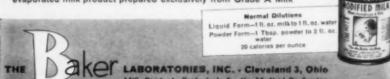
selects its formula.

- A complete, balanced uniform formula.
- Convenient and easy to prepare simply add water.
- Made from milk of outstanding purity.
- Provides adequate amounts of all known essential vitamins plus muchneeded iron.
- Butterfat replaced by easily digested vegetable oils.
- Twice homogenized for better digestion and absorption.
- Helps doctor control infant's formula longer. Advertised to the medical profession only.
- Economical to use—eliminates need for additional vitamins and iron.

FURNISHED GRATIS TO HOSPITALS FOR NURSERY USE

Available in drug stores

OTHER PRODUCTS—VARAMEL—a scientifically formulated evaporated milk product prepared exclusively from Grade A Milk



buoy up your patients nutritionally

in pregnancy
lactation
convalescence
deliciency states
dietary restrictions
digestive dysfunction

with

Saturation Dosage

of water-soluble vitamins B and C

ALLBEE with C

Eron capsule contains

Mountrate (B.)

benam (8.) 10 mg. agricum (8.) 50 mg.

ar in Familiariate 10 mg

Assorts Acid

Robins

national Continues of St. No.

shottom coon buy fit in the the Villanta values for your patients



TABLET

"...the most effective available colonic anticholinergic drug."

"...relieves or reduces diarrhea, distention and pain in many patients with functional or organic colon disorders."2

in ulcerative colitis, irritable colon, mucous colitis, spastic colitis, diverticulitis, diverticulosis, rectospasm, diarrhea following G.I. surgery, bacillary and parasitic disorders.

activity "...confined principally to the lower gastro-intestinal tract..."3 and "...singularly free of anticholinergic side-effects...,"2 such as blurred vision, dry mouth, urinary retention.

(plain) - Each scored tablet contains 25 mg. of CANTIL. Bottles of 100 yellow compressed tablets. with Phenobarbital - Each scored tablet contains 25 mg. of CANTIL and 16 mg of phenobarbital (warning: may be habit forming). Bottles of 100 cocoa-brown compressed tablets. CANTIL is the only brand of the postganglionic parasympathetic inhibitor N-methyl-3-piperidyl-diphenylglycolate methobromide.

(1) Kleckner, M. S., Jr.: J. Louisiana M. Soc. 108:359, 1956. (2) Riese, J. A.: Am. J. Gestroenterol. 28:541, 1957. (3) Kleckner, M. S., Jr.: Clin. Proc. 5:19, 1957.



After rehydration has been carried out, the one of the following which should not be done is: (A) spinal tap; (B) surgical exploration of the abdomen; (C) urine culture; (D) placement of patient on streptomycin.

8. A food handler is found to have cysts of Endamoeba histolytica in the stool but is asymptomatic. This food handler should: (A) never be employed as a food handler; (B) be treated with emetine and then reemployed; (C) be observed and treated only if symptoms develop; (D) be treated with amebicidal drugs by mouth and then reemployed if the stools are negative.

9. A patient consumed a mixture of raw beef and pork. A year later he had convulsions, X-ray showed calcified shadows (1-2 cm long) in the muscles. The patient most likely had: (A) multiple hydatid cysts; (B) trichinosis; (C) cysticercosis (Taenia solium); (D) the laval stage of the beef tapeworm.

10. One of the following worms which is endemic in the United States is: (A) Hymenolepic nana; (B) Schistosoma mansoni; (C) Ancylostoma duodenale; (D) Clonorchis sinensis.

11. Measles occur only occasionally in the adult population because; (A) the control of measles has become so effective that it is a rapidly disappearing disease in all age groups; (B) one attack of measles produces a life long immunity and the disease is sufficiently prevalent to result in almost universal

infection during childhood; (C) hormonal changes associated with adolescence produce a high degree of non-specific immunity effective against measles, as well as the other so-called communicable diseases of childhood; (D) exposure to measles rarely occurs after school days.

12. The highest tyield of tuberculosis cases will be found by the routine x-ray examination of: (A) admissions to general hospitals; (B) school children; (C) adult familial contacts of known cases; (D) industrial workers.

13. The proper interpretation of a positive reaction to a tuberculin test is that the person is: (A) suffering from active tuberculosis; (B) immune to invasion by the tubercle bacillus; (C) susceptible to invasion by the tubercle bacillus; (D) sensitive to tuberculoprotein by virtue of previous or present infection with the tubercle bacillus.

14. Syphilis may be communicable:
(A) up to four years after acquiring the disease (except that women during the child bearing period may transmit infection in uterine life to children for longer periods of time); (B) only while the primary lesion is visible; (C) from the appearance of the primary lesion until the disappearance of the secondary lesion; (D) only while one or another of the serological tests for syphilis is positive.

15. A World War II veteran who was --- Continued on page 80a



For the first time ... YOU **CAN TURN OFF** THE COUGH UNTIL MORNING

8-12 HOUR CONTROL WITH A SINGLE DOSE

through sustained 'Strasionic release.

Suppresses nighttime sleep-robbing, daytime distracting, useless coughs without interfering with the protective cough mech-

Over 12,000 clinical observations 1-2 1 1 demonstrate its wide field of usefulness in ages rangthan 70 years

(1) Chan, Y. T. and Hays, E. E. The American Fournel of the Medical Sci-cinces, August 1957; (2) Townsie, E. B. H., In. Press, (3) Weismiller, F., In. Fress, (4) Cast. Lee T. and Frederik, W. S. In Fress.



EACH TUSSIONER TABLET CONTAINS



5 mg Dihydrocode

Stock bottle of 16 oz.

Re only. Class B taxable narcos

STRASENBURGH

Monilial overgrowth is a factor

Achrostatin*V

Combines ACHROMYCIN V with NYSTATIN

SUPPLIED:

CAPSULES contain 250 mg, tetracycimisci cquiralent (phagp-hat-huffered and 250,000 units Nystadio oau, sus passuoo (cherry-aint flavored) Eacl 5 cc. (caspoonful Contains 125 mg tetracycline 80] equivalent (phasphate buffered) and 125,000 mais Nystatio

DOSAGE:

Basic oral desage (6-7 mg, per lb, body weight per day) in the average adult in a captules or 6-mp, of Astraostatist Y per day, equivalent to 1 Gm, of Actino-avers V.

ACHROSTATIN V combines ACHROMY-CINT V, the new rapid-acting oral form of ACHROMYCINT Tetracycline noted for its outstanding effectiveness against more than 50 different infections... and NYSTATIN... the antifungal specific. ACHROSTATIN V provides particularly effective therapy for those patients prone to monifial overgrowth during a protracted course of antibiotic treatment.

CAUSED LABORATORIES ETVISION AMERICAN CYANADIO COMPANY PEAGL SINCE ATO 1005





Salimeph-C*

SALIMEPH-C, specially developed for relief of the pain-spasm-pain cycle in musculo-skeletal disorders, exerts a powerful ACTH-like action without its undesirable side effects.

SALIMEPH-C's active ingredient, like ACTH, acts on the anterior pituitary and the adrenal cortex. Both exert antipyretic, anti-inflammatory, and anti-rheumatic effects.

BUT HERE THE "KINSHIP" ENDS

SALIMEPH-C produces no hypertension, no hirsutism, no edema, acne or psychotic reactions or other side effects common to ACTH and CORTISONE therapy.

In the SALIMEPH-C formula the anti-rheumatic action of Salicylamide is coupled with the profound skeletal muscle relaxant, Mephenesin. Generous quantities of Ascorbic Acid replenish the Vitamin C lost during debilitating diseases and anti-rheumatic therapy.

SALIMEPH-C rapidly relieves the pain which causes the spasm and relaxes the spasm which causes the pain in rheumatoid arthritis, myositis, torticollis, bursitis, low back pain, osteoarthritis, sprains and strains.

*Trademark Kremers-Urban Company

FORMULA:

Prescribe with Confidence



KREMERS-URBAN CO. MILWAUKEE 1, WIS.

Ethical Pharmaceuticals Since 1894

in hypertension

ANSOLYSEN°

TARTRATE

Pentohnum Yazırate, Wyeth

LOWERS BLOOD PRESSURE



healthy except for attacks of malaria, dysentery, and scrub typhus in the South Pacific develops general malaise and loses weight several months after returning home. He starts to expectorate 4 to 8 ounces of reddish-brown sputum which is liquid and odorless. Dullness is found at the base of the right lung. The diagnosis suggested is: (A) pulmonary infarct; (B) abscess of the lung due to dysentery bacillus; (C) amebic abscess of the liver; (D) rickettsial pneumonia.

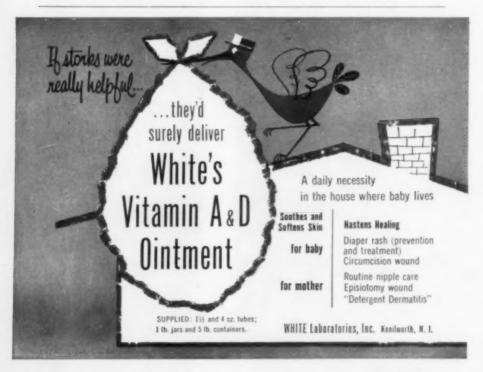
16. Of the following diseases, the one

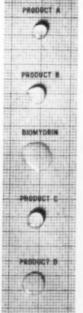
in which a marked leukocytosis is most likely to be found is: (A) lobar pneumonia; (B) primary atypical pneumonia; (C) pulmonary tuberculosis; (D) influenza.

17. Of the following diseases, the one in which a moderate leucopenia is most characteristic is: (A) Weil's disease; (B) brucellosis; (C) actinomycosis; (D) scarlet fever.

18. In hyperthyroidism there is: (A) need for increased vitamin B content

-Concluded on page 86a

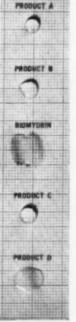




Biomydrin's mucolytic action is the difference!

"Spreading action" test of Biomydrin and four
other nasal preparations. Drops of
equal size were
placed on graph
paper and immediately photographed.
Note: Biomydrin
spreads and penetrates quickly, the
other drops, even
those with wetting
agents, show little
change.

Ten minutes later, Biomydrin shows an absorption area more than twice the size of some of the others.



And the difference means better, faster therapeutic action! Biomydrin Nasal Spray makes breathing easier . . . promotes nasal drainage...stops sneezing and itching. Biomydrin's unique mucolytic ingredient, Thonzonium bromide, lets all the other active agents get through to the affected mucosa. Patients get the full benefit of antibacterial neomycin and gramicidin, antibistaminic thonzylamine HCl, and decongestant phenylephrine HCl. Safe even for infants.

Nepera Laboratories, Morris Plains, N.J.

BIOMYDRIN®

NASAL SPRAY

for coryza and allergic or infectious sinusitis and rhinitis



in angina pectoris

new

Peritrate® with Nitroglycerin

BRAND OF PENTAERYTHRITOL TETRANITRATE

The long-acting emergency tablet for "stress days"

to relieve the acute attack and sustain coronary vasodilatation

Peritrate with Nitroglycerin (an uncoated, sublingual tablet which disintegrates immediately) contains 1/200 gr. nitroglycerin plus 10 mg. Peritrate. It provides immediate relief of anginal pain with hours of sustained coronary vasodilatation. *Dosage*: 1 tablet sublingually as needed.

WARNER-CHILCOTT



in common mixed infections ...tetracycline

...tetracycline phosphate alone

PANMYCIN* Phosphate

for children:

PANMYCIN KM Syrup BROAD-SPECTRUM TETRACYCLINE IN ITS MOST EFFICIENT FORM

Produces more tetracycline in the blood with no more in the dose. No calcium to depress blood levers. 'Basic broad-spectrum therapy in branchitis, pharpagitis, offilis media, tensilitis, and other common respiratory infections.

1. Welch, H.; Wagnt, W. W.; and Statta, A. W.; Ambbotic Ned. & Clin. Therapt 4-670, 1967.

in potentially serious infections

...tetracycline phosphate plus novobiocin PANALBA*

for children:

PANALBA KM Granules THE BREADTH OF PANMYCIN PHOSPHATE PLUS THE ANTIMICRO-COCCAL DEPTH OF ALBAMYCIN!

Offers maximum antimicrobial action at the earliest possible moment. The antibiotic preparation of first resort in pneumonia of unknown etiology, carbuncles, multiple furunculosis, cellulitis, and infections resistant to previous therapy.

TRADEMON, NEG. U. S. PAT. OFF.
THE UPJOHN BRAND OF CONSTRULING NOVOBIOCIN SCORUM

for the 7 moniliasusceptible types

phosphate plus pystatin COMYCIN*

Upjohn

The Upjohn Company, Kalamazoo, Michigan

PANMYCIN PROSPHATE PLUS THE ANTIMONILIAL PROTECTION OF NYSTATIN

The logical choice for patients requiring high doses of antibiotics or prolonged antibiotic therspy; for patients with previous monified complications; for diabetics; patients on corticolas; the pregnant, debilitated, or siderly; and for infants, especially the premature.



THE CHOICE OF A SYSTEMIC ANTIBIOTIC IS A MATTER OF CLINICAL JUDGMENT

1. PANMYCIN PHOSPHATE IN COMMON MIXED INFECTIONS

USUAL DOSAGE: ADULTS: 250 mg. every 6 hours or 500 mg. every 12 hours. CHILDREN: Approximately 8 mg. per pound of body weight daily, in four equally divided doses every 6 hours, or two equally divided doses every 12 hours.

SUPPLIED: CAPSULES: 250 mg. in bottles of 16 and 100; 125 mg. in bottles of 25 and 100.

PANMYCIN KM SYRUP: Each teaspoonful (5 cc.) contains tetracycline equivalent to 125 mg. tetracycline hydrochloride, and potassium metaphosphate, 100 mg., mint flavor, in 2 fluidounce and pint bottles.

2. PANALBA IN POTENTIALLY SERIOUS INFECTIONS

USUAL DOSAGE: ADULTS: 1 or 2 capsules three or four times a day, depending on the type and severity of the infection. CHILDREN: Proportionately less.

SUPPLIED: Each powder-blue-and-brown capsule contains Panmycin (tetracycline) Phosphate complex equivalent to 250 mg. tetracycline hydrochloride, and Albamycin (as novobiocin sodium) 125 mg.; in bottles of 16 and 100.

Also available: PANALBA KM GRANULES (Pediatric). When reconstituted, each 5 cc. teaspoonful contains Panmycin equivalent to tetracycline hydrochloride, 125 mg. and Albamycin (as novobiocin calcium) 62.5 mg., and potassium metaphosphate 100 mg.; in pleasantly flavored vehicle. Dosage is based upon amount of tetracycline—6 to 8 mg. per pound of body weight per day in 2 to 4 equally divided doses.

3. COMYCIN FOR THE 7 MONILIA-SUSCEPTIBLE TYPES

USUAL DOSAGE: ADULTS: 1 or 2 capsules every 6 hours. CHILDREN: Proportionately less.

SUPPLIED: Each brown-and-pink capsule contains tetracycline phosphate complex, equivalent to 250 mg. tetracycline hydrochloride; nystatin 250,000 units. In bottles of 16 and 100.

Upjohn

The Upjohn Company, Kalamazoo, Michigan

In Topical Infections



NEO-POLYCIN*

...provides more effective treatment of cutaneous infections with the preferred topical antibiotics. The unique Fuzene® base makes available more neomycin, more polymyxin and more bacitracin than do ordinary grease-base ointments.

Clinically effective in pyodermas, such as impetigo, folliculitis, paronychia and sycosis barbae; and also in secondary bacterial infections complicating treatment of burns, eczemas, contact dermatitis, seborrhea, acne, psoriasis, varicose ulcers and neurodermatitis.

Each gram of Neo-Polycin ointment contains 3 mg. of neomycin, 8000 units of polymyxin B sulfate and 400 units of bacitracin in the unique Fuzene base. Supplied in 15 Gm. tubes. (Also supplied as Neo Polycin-HC, containing 1% hydrocortisone acetate, in 5 Gm. tubes.)

Neo-Polycin and Neo Polycin-HC ophthalmic ointments (anhydrous, lanolin-petrolatum base) are supplied in 1/8 oz. tubes.

*Trademark



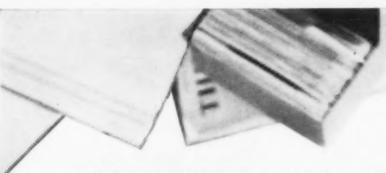
PITMAN-MOORE COMPANY

DIVISION OF ALLIED LABORATORIES, INC. . INDIANAPOLIS, INDIANA

clinical evidence indicates

BUFFERED

Predni-steroids" for rheumatoid arthritis....



Gastric distress accompanying "predni-steroid" therapy is a definite clinical problem - well documented in a growing body of literature.

*"In view of the beneficial responses observed when antacids and bland diets were used concomitantly with prednisone and prednisolone, we feel that these measures should be employed prophylactically to offset any gastrointestinal side effects."-Dordick, J. R. et al .: N. Y. State J. Med. 57:2049 (June 15) 1957.

*"It is our growing conviction that all patients receiving oral steroids should take each dose after food or with adequate buffering with aluminum or magnesium hydroxide preparations."-Sigler, J. W. and Ensign, D. C.: J. Kentucky State M. A. 54:771 (Sept.) 1956.

*"The apparent high incidence of this serious [gastric] side effect in patients receiving prednisone or prednisolone suggests the advisability of routine co-administration of an aluminum hydroxide gel."-Bollet, A. J. and Bunim, J. J.: J. A. M. A. 158:459 (June 11) 1955.

One way to make sure that patients receive full benefits of "predni-steroid" therapy plus positive protection against gastric distress is by prescribing CO-DELTRA or CO-HYDELTRA.

·Co-Deli

provide all the benefits of "Predni-steroid" therapy_ plus positive antacid protection against gastric distress

multiple compressed tablets



2.5 mg. or 5.0 mg. of prednisons 2.5 mg. of 5.0 mg. of prednisone or prednisolone, plus 300 mg. of dried aluminum hydroxide gel and 50 mg. magnesium trisili-cate, in bottles of 30, 100, 500.

MERCK SHARP & DOHME Division of MERCK & CO., INC., Philadelphia 1, Pa. MSD



in the diet given the patient; (B) need for decreased vitamin B content in the diet; (C) no need for change in vitamin B content of diet as compared to normal; (D) no need for an increase in vitamin B content of diet unless iodine therapy is resorted to.

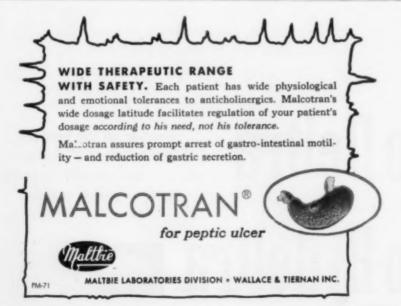
19. In 45-year-old firemen on fire-fighting duty, a common cause for acute shoulder pain without other complaint is: (A) coronary occlusion; (B) shoulder joint osteoarthritis; (C) fracture of the clavicle; (D) subacrominal bursitis and tendonitis.

20. A 40 year old comatose male with cold, clammy skin, temperature 97°F., bilateral Babinski reflexes, no nuchal rigidity, and no other abnormal physical findings, has a catheterized urine which shows albuminura +, glucose ++, no acetone or diacetic, rare red blood cell and white blood cell per high power field. Serum urea nitrogen is 23 mg./100 cc. Of the following, the best diagnosis is: (A) diabetic acidosis; (B) insulin shock; (C) meningitis;

(D) uremia.

"MEDIQUIZ" ANSWERS

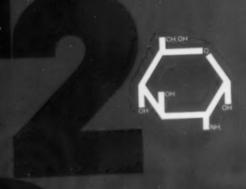
1(C), 2(A), 3(B), 4(C), 5(A), 6(C), 7(B), 8(D), 9(C), 10(A), 11(B), 12(C), 13(D), 14(A), 15(C), 16(A), 17(B), 18(A), 19(D), 20(B).



Three advantages of glucosamine-potentiated tetracycline:

Bighest, instest intracacting blood levels.

Especial consistency of higher tetraceroties blied locals blot only does glucocornins considerably increase antibiotic blood levels faster, but it produces these higher blood levels more



behiered with the physiologic desniages of glucasamine. c

in new well-tolerated

COSA-TETRACYN



Here it is >>> STERILE
Rib-Back

BLADE

in the PUNCTURE PROOF Package

Naturally, it can be AUTOCLAVED

Don't compromise package safety or blade quality. The B-P STERILE Rib-Back BLADE package provides both—on the outside an easily opened PUNCTURE PROOF envelope that can be autoclaved if desired . . . on the inside a STERILE Rib-Back BLADE of the same superior carbon steel you have always enjoyed.

CARBON steel-the BEST for FINE cutting edges

After all, the first consideration is cutting efficiency no matter how the blade is packaged—and cutting efficiency is exactly what you get with the 'only' B-P Rib-Back Surgical Blade, whether your preference in packaging be . . .

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WILL APA

BARD PARKER RIB-BACK BLADES - ALWAYS YOUR BEST BUY IN PERFORMANCE SUPPLIED IN THE PACKAGE TO MEET YOUR REQUIREMENTS



"Doctors can't help shingles?"

Physicians who have used Protamide extensively deplore such statements as unfortunate when they appear in the lay press. They have repeatedly observed in their practice quick relief of pain, even in severe cases, shortened duration of lesions, and greatly lowered incidence of postherpetic neuralgia when Protamide was started promptly. A folio of reprints is available. These papers report on zoster in the elderly—the severely painful cases—patients with extensive lesions. Protamide users know "shingles" can be helped.



Sherman Laboratories

Detroit 11, Michigan

Available: Boxes of 10 ampuls - prescription pharmacies.



Antihistamine action would have helped...

When Pandora's box was opened, allergens must certainly have been among the evils she released. 'PERAZIL', the effective, long-acting antihistamine would have helped then as it does now. A single dose usually gives dramatic relief to allergic patients for a 12- to 24-hour period, and side effects are generally mild and infrequent.

PERAZIL

prolonged relief

few side effects

For children and adults: Sugar-coated Tablets of 25 mg.
Scored (uncoated) Tablets of 50 mg.



BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

when you treat common bacterial infections . . .



a well patient back on the job



measures therapeutic success

Pentids

when an oral penicillin is indicated...prescribe Pentids

Six years experience by physicians in treating many millions of patients with Pentids confirm clinical effectiveness and safety. Excellent results are obtained with Pentids in many common bacterial infections with only 1 or 2 tablets t.i.d. Pentids may be taken without regard to meals. Pentids are economical . . . cost less than other penicillin salts.

DOSE: 1 or 2 tablets t.i.d. without regard to meals

SUPPLY: Bottles of 12, 100 and 500 tablets

other Pentids products

NEW Pentids For Syrup: Squibb Flavored Penicillin Powder: when prepared with 35 cc. of water, the preparation provides 60 cc. of fruit-flavored syrup, 200,000 units per teaspoonful (5 cc.).

Pentids Capsules: Squibb Penicillin C Potassium 200,000 Unit Capsules, bottles of 24, 100 and 500.

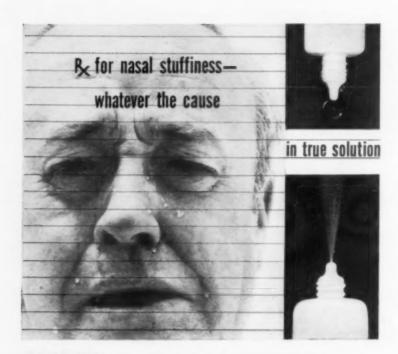
Pentids Soluble Tablets: Squibb Penicillin G Potassium Soluble Tablets - 200,000 units, vials of 12, bottles of 100.

Pentid-Sulfas Tablets: Squibb Penicillin with Triple Sulfas, bottles of 30, 100 and 500.

These formulations are given ½ hr. before meals or 2 hrs. after meals,

QUIBB Squibb Quality-the Priceless Ingredient

PERTIDS R IS A SQUIRE TRADEMARK



JUST 2 SPRAYS* OF

NEO-HYDELTRASOL

Prednisolone 21-phosphate with Propadrine D, Phenylephrine, and Neomycin

PROVIDE—the most valuable and most soluble of the topical steroids—prednisolone 21-phosphate (2000 times more soluble than hydrocortisone, prednisone or prednisolone), with phenylephrine and Propadrine® plus neomycin

for prompt, persistent and potent anti-inflammatory, antibiotic, decongestant action, to help re-establish normal drainage, breathing and mucosal function and at the same time actively combat secondary bacterial infection.

*DOSAGE: as spray—2 sprays into each nostril every 2-3 hours.

as drops—2 or 3 drops every 2-3 hours (invert bottle).

SUPPLIED: in 15 cc. plastic spray bottles.



MERCK SHARP & DOHME . Division of MERCK & CO., Inc., Philadelphia 1, Pa.

MODERN MEDICINALS

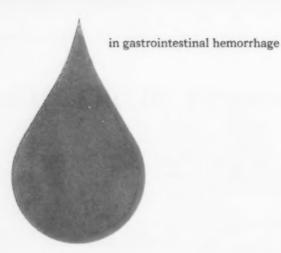
These brief résumés of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Compocillin-V with Sulfas. Abbott Laboratories. North Chicago, Illinois. Each Filmtab contains 125 mg. (200,000 units) of potassium penicillin V, 167 mg. of sulfadiazine. 167 mg. of sulfamerazine and 167 mg. of sulfamethazine. Indicated for treatment of mixed infections found in the respiratory or urinary tracts. Dose: As determined by physician. Sup: Bottles of 50.

Aristocort, Lederle Laboratories Division, American Cvanamid Company, Pearl River, New York, Triamcinolone. A synthetic steroid compound. Indicated for the treatment of collagen diseases, respiratory allergies and chronic dermatoses. Dose: Initial adult dosage is 8 mg. to 20 mg. per day, divided into 3 or 4 doses. Thereafter dosage is reduced every 2 or 3 days by 2 to 4 mg. until minimal maintenance is determined. Dosage for children is based on severity rather than upon age or weight. Sup: Scored pink tablets of 2 mg. and scored white tablets of 4 mg. in bottles of 50.

Dartal, G. D. Searle & Co., Chicago, Illinois. Dartal hydrochloride is a new, single chemical substance, with the brand name of thiopropazate dihydrochloride and the chemical description of 1-(2-acetoxyethyl)-4-[3 - (2 - chloro - 10 - phenothiazinyl) propyl] piperazine dihydrochloride. On low dosages Dartal produces tranquilizing effects without sedation in agitated and anxiety states associated with insomnia, anorexia, abnormal excitement, the psychosomatic symptoms of organic disorders such as peptic ulcer, cerebral arteriosclerosis. catatonic or paranoid schizophrenia. neuroses, psychoses, acute mania, Huntington's chorea, barbiturate addiction and alcoholism. Dose: Recommended dosage for anxiety tension states, psychosomatic disorders and other neuroses is 5 mg, three times daily, and for psychotic conditions it is 10 mg, three times daily. Sup: Uncoated white tablets of 5 mg. and uncoated peach tablets of 10 mg. tablets in bottles of 50 and 500.

Delectavites, White Laboratories, Inc., Kenilworth, New Jersey. A chocolate-like nugget containing substantial amounts of all essential vitamins and minerals to be used as a





"bleeding...was immediately controlled"
has often proved...lifesaving when all
other methods failed"

KOAGAMIN B parenteral hemostat

In his recent report of 40 cases of gastrointestinal bleeding, Jackson states that "...Koagamin produced dramatic results. The solution will not stop the hemorrhage of a large sclerotic vessel, but it has often proved effective and lifesaving when all other methods failed."*

KOAGAMIN acts on the late phases of the clotting mechanism, rapidly checks venous and capillary bleeding regardless of cause. It has an outstanding record of safety during 19 years of use in general surgery, internal medicine, obstetrics and gynecology, urology, ophthalmology and otorhinolaryngology and dentistry.

KOAGAMIN, an aqueous solution of oxalic and malonic acids for parenteral use, is supplied in 10-cc. diaphragm-stoppered vials.

* Jackson, A. S.: Journal-Lancet 76:45 (Feb.) 1956.

CHATHAM PHARMACEUTICALS, INC • NEWARK 2, NEW JERSEY
Distributed in Canada by Austin Laboratories, Limited, Guelph, Ontario

In urinary-tract infections

HIGH TISSUE LEVELS

HIGH BLOOD LEVELS

OW TOXICITY

SUSPENSION

TABLETS

Triple Sulfonamides, Wyeth (Trisulfapyrimidines: Sulfadiazine, Sulfamerazine, Sulfamethazine)





Philadelphia 1, Pa.



one-a-day nutritional supplement for children. Sup: Boxes of 30 and 90.

Deprol, Wallace Laboratories, New Brunswick, New Jersey. Tablets, each containing 400 mg. meprobamate (Miltown) and 1 mg. benactyzine hydrochoride. Indicated for counteracting depression without euphoria or stimulation and restoring natural sleep without depressing after-effects. Dose: As directed by physician. Sup: Bottles of 50.

Dicodrine Syrup, George A. Breon & Co., New York, New York, Each 5 cc, contains 5.0 mg, phenylephrine HCL., 3.34 mg, thenyldiamine HCL., 83.34 mg, potassium guaiacol sulfonate, 1.67 mg, dihydrocodeinone bitartrate. Indicated for coughs due to colds and accompanying congestive symptoms, and non-productive coughs resulting from congestion in other parts of the respiratory tract. Dose: As directed by physician. Sup: Pint and gallon bottles.

Diuril, Merck Sharp & Dohme, Division of Merck & Co., Inc., Philadelphia, Pennsylvania. For hypertension of all degrees of severity. Congestive heart failure; premenstrual edema; edema of pregnancy; renal edema—nephrosis, nephritis; cirrhosis with ascites; drug-induced edema. May be of value to relieve fluid retention complicating obesity. Dose: For hypertension: One 250 mg. table three times daily. For other

indications: One 500 mg. tablet to two 500 mg. tablets once or twice a day. Sup: 250 mg. and 500 mg. scored tablets in bottles of 100 and 1000.

Incremin with Iron, Lederle Laboratories Division, American Cyanamid Co., Pearl River, New York. Cherry-flavored liquid containing vitamins B₁, B₆, B₁₂, lysine, ferric pyrophosphate and iron. Indicated for the prevention and correction of iron deficiency in children and adults and as an aid in appetite stimulation. Dose: One teaspoonful (5 cc.) daily, or as prescribed by physician. Sup: Bottles of 4 oz.

Kenacort, E. R. Squibb & Sons, New York, New York, Division of Olin Mathieson ChemicalCorp. Triamcinolone, chemical modification of prednisolone. Indicated for the treatment of rheumatoid arthritis, bronchial asthma, vasomotor rhinitis, edema, dermatoses and Hodgkins disease. Dose: 8 to 16 mg. daily, depending on condition of patient. Sup: 1 mg. and 4 mg. tablets in bottles of 30.

Liquamar, Organon Inc., Orange, New Jersey. Tablets, each containing 3 mg. of phenprocoumon (3-(1'phenylpropyl) -4-hydroxycoumarin). Indicated in the prophylaxis and treatment of thrombosis and embolism, including thrombophlebitis, phlebothrombosis, coronary thrombosis.

-Continued on page 100a









for middle-age slowdown

Plestran is indicated as an aid in restoration of vigor in middle-aged or elderly patients who complain of chronic fatigue...reduced vitality...low physical reserve...impaired work capacity... depression... muscular aches and pains... or cold intolerance. Such "signs of aging," far from being due to physiologic disturbances, may often result from endocrine imbalance, especially gonadal and thyroid dysfunction. 1-4 Plestran provides ethinyl estradiol (0.005 mg.); methyltestosterone (2.5 mg.); and Proloid® (34 gr.)—hormones which help to correct endocrine imbalance and often halt or reverse involutional and degenerative changes. 1-4

Plestran restores work capacity and a sense of well-being, usually within 7 to 10 days. It improves nitrogen balance, leads to better muscle tone and vigor, enhances mental alertness,

Purified thyroid globulin

helps to correct osteoporosis, senile skin and hair texture changes and relieves muscular pain.

The anabolic and tonic effects of the hormones in Plestran appear to be enhanced by combination so that small dosages are very effective. Combination also overcomes some of the disadvantages of therapy with a single sex hormone, such as virilization, feminization or withdrawal bleeding.⁵

Dosage: Usually one tablet daily; occasional patients may require two tablets daily, depending on clinical response.

Supplied in bottles of 100 and 500.

References: 1. McGavack, T. H.: Geriatrics 5:151 (May-June) 1950. 2. Masters, W. H.: Obst. & Gynec, 8:61 (July) 1956. 3. Kimble, S. T., and Stieglitz, E. J.: Geriatrics 7:20 (Jan.-Feb.) 1952. 4. Kountz, W. B., and Chieffi, M.: Geriatrics 2:344 (Nov.-Dec.) 1947. 5. Birnberg, C. H., and Kurzrok, R.: J. Am. Geriatrics Soc. 3:656 (Sept.) 1955.

PLESTRAN

a metabolic regulator

WARNER-CHILCOTT

100 YEARS OF SERVICE TO THE MEDICAL PROFESSION

to help
the
constipated
toward
their
normal
regularity



PALATABLE

EFFECTIVE

WELL-TOLERATED

H. Beckman: Treatment in General Practice. W. B. Saunders Co., 1946; p. 478.
 A. Grollman: Pharmacology and Therapeutics. Lea & Febiger, 1954; p. 391.
 W. J. Visek, W. C. Liu, L. J. Roth: Studies on the fate of Carbon-14 Labeled Phenoiphthalein. Jour. Pharmacol. and Exp. Therapeutics, July 1956; 117:347.

Indicated in cases of occasional constipation, phenolphthalein, the active ingredient of Ex-Lax, acts gently, overnight . . . "in the morning produces a stool very much like normal". . . continues to act as a "mild aperient for several days," lessening need for frequent medication. No "adverse effects, such as tissue irritation, toxic symptoms or interference with the normal physiological functions" were observed by Isotope Research.

But surely... the lady will be dainty

- · Massengill Powder has a "clean" antiseptic fragrance. It enjoys unusual patient acceptance
- Massengill Powder is buffered to maintain an acid condition in the vaginal mucosa. It is more effective than vinegar and simple acid douches.
- · Massengill Powder has a low surface tension which enables it to penetrate into and cleanse the folds of the vaginal mucosa.
- · Massengill Powder solutions are easy to prepare. They are nonstaining, mildly astringent.



massengill powder when recommending a raginal douche

INDICATIONS:

Massengill Powder solutions are a valuable adjunct in the management of monilia, trichomonas, staphylococcus, and streptococcus infections of the vaginal tract. Routine douching with Massengill Powder solution minimizes subjective discomfort and maintains a state of cleanliness and normal acidity without interfering with specific treatment.

Currently, mailings will be forwarded only at your request. Write for samples and literature.

The S. E. MASSENGILL Company NEW YORK SAM PRANCISCO KANEAS CITY

In modern feminine hygiene

and therapy

massengill powder

The clean, refreshing fragrance of Massengill Powder is acceptable to the most fastidious for therapeutic or routine hygienic use. Solutions are easily prepared, convenient to use, nonstaining. They effectively cleanse, deodorize and soothe the vaginal mucosa, while their mild astringent properties tend to decrease vaginal secretions.

CLEAN-UP AFTER ANTIBIOTICS

Following intensive antibiotic therapy, many female patients complain of vulvar pruritus or vaginitis, and profuse vaginal discharge. Most of these present the classical picture of Monilia albicans, Trichomonas vaginalis or mixed infections. When these infections occur, regular use of Massengill Powder, with its pH of 3.5 to 4.5, helps restore the normal acidity of the vaginal tract. At this normal pH the growth of pathogenic organisms is inhibited and the growth of the normal vaginal flora encouraged.1

LOW DH RETENTION

Massengill Powder is buffered to retain an acid condition. In a recent study, ambulatory patients—with an alka-line vaginal mucosa resulting from pathogens-maintained an acid vaginal mucosa of pH 3.5 for a period of 4 to 6 hours after douching with Massengill Powder; recumbent patients maintained a satisfactory acid condition up to 24 hours. Simple acid douches are quickly neutralized by an alkaline vaginal mucosa, and are unsatisfactory in maintaining the required acid pH of the vagina.2

LOWER SURFACE TENSION

Massengill Powder in the standard solution has a surface tension of 50 dynes/cm. as compared to that of water and simple acid solutions with 72 dynes/cm. This added property enables Massengill Powder to penetrate into and cleanse the folds of the vaginal mucosa, thus increasing the therapeutic effectiveness. Lowered surface tension makes the cell wall and cytoplasmic membrane of the infecting organism more permeable and more susceptible to specific therapy.2

SUPPLY

Massengill Powder is supplied in glass jars of the following sizes:

Small, 3 oz. Medium, 6-oz. Large, 16 oz. Hospital Size, 5 lbs.

Pads of douching instructions for patient use available on request.

REFERENCES

- Lang, W.R., Rakoff, A.E., Am. Geriatrics Soc. 1:520 (1953).
- Arnot, P.H., The Problem of Douching, Western Journal of Surg., Obs., and Gyn., Vol. 62, No. 2:85 (1954).

The S. E. MASSENGILL Company NEW YORK SAN FRANCISCO KANSAS CITY

in toxemia of pregnancy

Diamox

nonmercurial diuretic ACETALOLANIOS LEDENT

Diamox effectively produces weight loss through fluid loss in pregnant patients with visible or occult edema, pre-eclampsia, hypertensive disease, and decompensated heart disease.

Diamox was administered to 106 pregnant patients, on regular or prescribed diets. The majority were ambulatory and all either had more than the normal amount of visible edema and/or gained more than the average of 1 kg, per week. Response with Diataox showed that edema fluid can be removed effectively: 500-2000 Gm. in 24-72 hours, and as much as 11 kg, within 7 days.

A highly versatile diuretic, DIAMOX is perticularly advantageous in prenatal management. Lack of taste, ease of administration, and lack of renal and gastrointestinal irritation make its use simple and relatively free of complications.

Supplied: Scored tablets of 250 mg.; Syrup containing 250 mg. per 5 cc. teaspoonful Ampuls of 500 mg. for parenteral use.

iffeckman, W.J., Harred, J., and Monardo, A., The Irantment of Pro-eclamptic Edema with Accounts under (Diames), Am. J. Otto. & Green, 71:789-800.

AND THE PROPERTY CHARACT SCARL SUICE SE

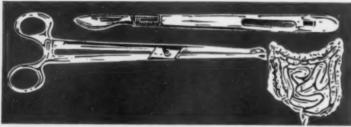
and pulmonary embolism. *Dose:* As directed by physician. *Sup:* Bottles of 100 and 1000.

Methoxa-Dome Capsules, Dome Chemicals, Inc., New York, New York. Each capsule contains 10 mg. 8-methoxypsoralen. For repigment vitiliginous skin in vitiligo when used with ultraviolet radiation. Dose: 2 capsules two hours before exposure to sun rays. Sup: Bottles of 50.

Midicel, Parke, Davis & Co., Detroit, Michigan. Quarter-scored tablets each containing 0.5 Gm. sulfamethoxypyridazine. Indicated for urinary tract infections both Gram negative and Gram positive. *Dose:* Two tablets initially, 1 a day thereafter. *Sup:* Bottles of 24 and 100.

Neutrapen, SchenLabs, Inc., New York, New York. Powder consisting of purified penicillinase. Indicated for treatment of allergic reactions to penicillin by neutralizing the circulating penicillin. Also recommended in known pencillin-sensitive and allergic patients for prophylactic use with drugs and vaccines containing small amounts of the antibiotic. Dose: Intramuscular injection as directed by physician. Also given intravenously.

-Continued on page 104a



SULFASUXIDINE

SUCCINYLSULFATHIAZOLE

A "STANDARD" IN BOWEL SURGERY

Many years of widespread use have demonstrated the importance of SULFASUXIDINE in bowel surgery. It minimizes the danger of infection by producing a low bacterial count in the gut and reduces incidence of flatulence. Normal healing is encouraged.

Available as 0.5 Gm. tablets in bottles of 100 and 1000; powder form in 1-pound bottles. Sulfasuxidine is a trade-mark of Merck & Co., Inc.



MERCK SHARP & DOHME

DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.



PRE-MICRONIZATION of particle size assures maximum effectiveness

Medihaler-EPI® For quick relief of bronchospasm of any origin. More rapid than injected epinephrine in acute allergic attacks.

Epinephrine bitartrate, 7.0 mg, per cc., sus-pended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each measured dose 0.15 mg. free epinephrine.

Medihaler-ISO Unsurpassed for rapid relief of symptoms

Isoproterenol sulfate, 2.0 mg. per cc., sus-pended in inert, nontoxic aerosol vehicle, Contains no alcohol. Each measured dose 0.06 mg. free isoproterenol.

MEDIHALER For Ample Air Right Now!

Millions of asthmatic attacks have been aborted faster, more effectively, more economically with Medihaler-Epi and Medihaler-Iso. Automatically measured dosage and true nebulization...nothing to pour or measure...One inhalation usually gives prompt relief.

Prescribe Medihaler medication with Oral Adapter as first prescription. Refills available without Oral Adapter,

The Medihaler Principle of automatically measured-dose aerosol medications in spillproof, leakproof, shatterproof, vest-pocket size dispensers also available in Medihaler-Phen® (phenylephrine, hydrocortisone, phenylpropanolamine, neomycin) for prompt, lasting relief of nasal congestion.

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CLINICAL BRIEFS FOR MODERN PRACTICE



is there a correlation between pregnancy and gallstones?

Yes. Late pregnancy, the postpartum period and multiparity are often complicated by gallstones, even in slim, young women. Delayed gallbladder emptying and biliary stasis foster stone formation. Biliary cholesterol, increased in pregnancy, crystallizes out in the gallbladder as pure cholesterol calculi.

Source-Sherlock, S.: Diseases of the Liver and Biliary System, Springfield, Ill., Charles C Thomas, 1955, p. 643.

Gallstones In Young Pregnant Women - Data from 100 Consecutive Cholecystectomies*

1 pregnancy 2 pregnancies 3 or more

23 Women - Ages 22 to 30 6 13 4

*Sparkman, R. S.: Ann. Surg. 145:813, 1957.

one tablet t.i.d.

DECHOLIN° with Belladonna

protects your pregnant patients

- copious, free-flowing bile prevents biliary stasis...
 promotes natural laxation without catharsis
- Hydrocholeresis plus spasmolysis combats biliary dyskinesia... curbs functional G.I. distress

Each tablet of Decholin/Belladonna contains Decholin (dehydrocholic acid, Ames) 3¾ grains (0.25 Gm.) and extract of belladonna ¼ grain (0.01 Gm.) equivalent to tincture of belladonna, 7 minims. Bottles of 100 and 500.



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Ames Company of Canada, Ltd., Toronto

Innouncing SIGMOL° ENEMA

non-irritating · sodium-free

is now available through ethical prescription pharmacies

Physicians who have used this NEW disposable enema in hospitals across the nation have asked us to make it available to their patients for home use.

Sale, even for routine use with patients on lowsodium regimen.

For your supply of handy patient instruction sheets, write Sigmot on your Rx blank and mail to:

PHARMASEAL LABORATORIES 1015 Grandview Avenue • Glendale 1, California affiliate of Don Buster, Inc.

PHARMASEAL Leader in enema research and therapy

Sup: Single-dose vials containing 800,000 units in powder form, for reconstitution.

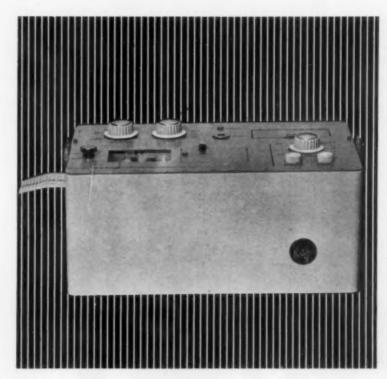
Nugestoral, Organon Inc., Orange, New Jersey. New package size of 100 tablets. Indicated specifically for the preservation of pregnancy in the abortion-prone patient. *Dose:* One tablet three times daily throughout gestation. *Sup:* Boxes of 30 and 100.

Percobarb—Demi, Endo Laboratories, Richmond Hill, New York. Blue and white capsules containing half the amount of dihydrohydroxycodeinone, homatropine, and hexobarbital present in Percobarb. Induced in this new form to permit greater degree of flexibility in meeting specific patient needs. Indicated for the relief of pain. *Dose:* One capsule every six hours. *Sup:* Bottles of 100 and 500.

Percodan—Demi, Endo Laboratories, Richmond Hill, New York. Pink tablets containing just half the amount of dihydrohydroxycodeinone and homatropine present in Percodan. Indicated as a fast-acting, long-lasting oral medication for thorough pain relief. Dose: One tablet every six hours. Sup: Bottles of 100, 500, and 1000.

-Concluded on page 108a





a completely new-all new electrocardiograph by Birtcher

Twenty-two years devoted exclusively to the design and production of the world's choicest electronic medical-surgical equipment is now culminated in the presentation of this new — finest of all, electrocardiograph.

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Speed Based on Dependability...

ACHRO

ACHROMYCIN Tetracycline serves as the model for the newest advance in broad-spectrum antibiotics. For more than three years it has repeatedly demonstrated exceptional effectiveness in the treatment of more than 50 different infections.

Now speed of absorption has been added to its unsurpassed antibiotic dependability. New ACHROMYCIN V Capsules offer more patients consistently high blood levels...a gain in efficiency



Tetracyline HCI Buffered with Citric Acid

at no sacrifice to broad, anti-infective spectrum or indications.

New ACHROMYCIN V Capsules do not contain sodium.

REMEMBER THE V WHEN SPECIFYING ACHROMYCIN V

CAPSULES: (blue-yellow) 250 mg. tetracycline HCI (buffered with citric acid, 250 mg.); 100 mg. tetracycline HCI (buffered with citric acid, 100 mg.). ACHROMYCIN V DOSAGE. Recommended basic oral dosage is 6-7 mg. per lb. body weight per day. In acute, severe infections often encountered in infants and children, the dose should be 12 mg. per lb. body weight per day. Dosage in the average adult should be 1 mg. per lb. body weight per day. Dosage in the average adult should be 1 mg. dovided into four 250 mg. doses.

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK PR. U.S. Pot. Off.



Phenergan Expectorant Pediatric,

Wyeth Laboratories, Philadelphia, Pennsylvania. Each teaspoonful (5 cc.) contains 7.5 mg, dextromethorphan hydrobromide, 5.0 mg. promethazine hydrochloride, 0.17 min. fluid extract ipecac, 44 mg. potassium guaiacolsulfonate, 0,25 min. chloroform, 60 mg. citric acid, 197 mg. sodium citrate in a flavored syrup base, and 7% alcohol. It is indicated primarily for alleviation of coughs accompanying head colds. bronchitis, inflammation of the pharvnx and trachea, larvngitis and asthma. Dose: One-half teaspoonful (2.5 cc.) 1 to 4 times daily for children under 4 years. Over 4 years, 1 to 2 teaspoonfuls (5-10 cc.) 1 to 4 times daily. Sup: Pint bottles.

Signemycin Syrup, Pfizer Laboratories, Division of Chas. Pfizer & Co., Inc., Brooklyn, New York, Each teaspoonful (5 cc.) contains 125 mg. Signemycin activity (42 mg, oleandotriacetyloleandomycin, mycin as and tetracycline equivalent to 83 mg. tetracycline hydrochloride.) cated for treatment of a wide range of microbial infections caused by both Gram positive and Gram negative bacteria, with added protection against resistant staphylococci. Dose: As directed by physician, Sup: Bottles of 2 oz. and 1 pint.

Somatozyme Liquid, Purdue Frederick Company, New York, New York. Aqueous multivitamin preparation containing high dosages of

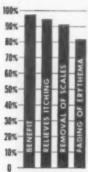
vitamins B₁ and B₂₂, 8 other essential vitamins including A, B complex, C and D. Indicated as a diet supplement for infants, children, adolescents and adults, correcting anorexia and impaired growth. *Dose:* 1 to 3 teaspoonfuls daily or as directed. *Sup:* 6 and 12 ounce bottles.

Supara, B. F. Ascher & Company, Inc., Kansas City, Missouri. Tablet containing Tolferate, Ascher brand of ferrous fumarate, phosphorous free calcium and essential vitamins. Daily dose supplies 100 mg. elemental iron, 750 mg. calcium and vitamin support. It is primarily intended as a prenatal supplement. Dose: Three tablets daily. Sup: Bottles of 100 and 1000.

Thorazine, Smith Kline & French Laboratories, Philadelphia, Pennsylvania, New dosage form—10 cc. multiple-dose vial containing 250 mg. chlorpromazine HCl. Indicated for treatment of moderate to severe emotional states; for nausea and vomiting. Dose: As directed by physician. Sup: Single vials or packages of 20.

Vioform-Hydrocortisone Lotion, Ciba Pharmaceutical Products, Sum-

mit, New Jersey. Contains 3% iodochlorhydroxyquin and 1% hydrocortisone. Indicated to provide antifungal and antibacterial action together with antiinflammatory and antipruritic effects. *Use:* Apply 3 or 4 times daily. *Sup:* Plastic squeeze bottles of 15 ml.



RIASOL FOR RESULTS IN PSORIASIS

As of 1958 RIASOL* has an unequaled record of results in the treatment of psoriasis:

- · Benefit in 97% of cases.
- · Relief of itching in 94%.
- · Removal of scales in 91%.
- Fading of erythema in 82%.
- · Adverse effects, none.

UNIQUE FORMULA: Mercury 0.45% is chemically combined with soaps for greater penetration. Phenol 0.5% is antipruritic. Cresol 0.75% removes scales. Patients appreciate the washable, non-staining, odorless vehicle.

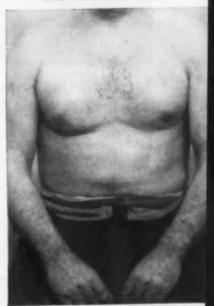
USE: Once daily as a thin film applied to the skin patches, after a mild soap bath and thorough drying. Invisible, economical, convenient. No bandages needed. Adjust to patient's progress after one week.

RIASOL is readily available at all pharmacies in 4 and 8 fld. oz. bottles, or it can be supplied direct. Ethically promoted.

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BEFORE USE OF RIASOL



AFTER USE OF RIASOL



Test RIASOL Yourself

May we send you professional literature and generous clinical package of RIASOL. No obligation. Write

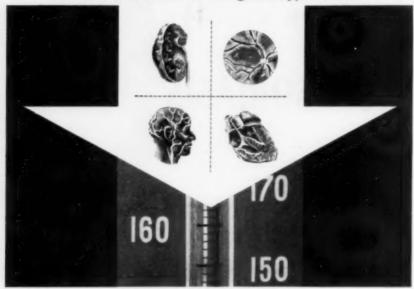
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RIASOL FOR PSORIASIS

for severe essential or malignant hypertension



Methium lowers blood pressure in 88% of patients, relieves symptoms

In addition to lowering pressures in 88% of hypertension patients with diastolic readings of 140 or higher, Methium therapy also produced substantial improvements in related symptomatology (see table).^{1,2} The value and safety of Methium has been demonstrated in long-term management—first to lower, then stabilize blood pressure while arresting many cardinal symptoms associated with renal, cardiac and visual functions.^{1,3,4}

Administration of Methium—a potent, autonomic ganglionic blocking agent—requires careful supervision.² However, with thorough evaluation of the patient and subsequent adjustment of dosage to individual needs, Methium is a dependable, safe and highly effective hypotensive agent.

	No. Putients Complaining	Potients Improved
Hoodacha	38	30 (79 %)
Precordial pain	31	22 (71%)
Eye ground change	s 53	36 (60 %)
Heart failure	36	26 (72%)
Abnormal EKG stra	in 48	32 (67 %)

Summary, by symptomatologic categories, of improvements from Methium therapy for severe, essential, and malignant hypertensive patients.

References: a. Moyer, J. H.; Miller, S. I. and Ford, R. V.; J.A.M.A. 152:1121 (July 18) 1953; 2. Kuhn, P. H.; Angiology 4:195 (June) 1953. 3. Ford, R. V. and Spurr, C. D.; Am. Pract, 5:251 (April) 1954. 4. Wolfe, J. B.; Walkow, M. D.; Nagler, J. H. and Anastasia, J.; J. Am. Geriatric Soc. 2:165 (June) 1954.



WARNER - CHILCOTT

IN RESPIRATORY
INFECTIONS

"...one does not wait..."

"... one does not wait for laboratory data but rather uses that combination most likely to be effective, based on experience and clinical judgment."

Welch, H.: AM&CT 3:375 (Nov.) 1956

- · Bactericidal
- Widest usefulness in the clinically important infections
- No cross resistance with other antibiotics reported
- No secondary overgrowth of yeasts or fungi reported



CATHOCILLIN_® FORTE

Capsules (green and white)

250 mg. novoblocin

150 mg. potassium penicillin G

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CATHOCILIN Capsules (blue and white)

125 mg. novobiocin

75 mg. potassium penicillin G

MERCK SHARP & DOHME Division of MERCK & CO., INC., Philadelphia 1, Pa



There is a form of short-acting NEMBUTAL® to serve every need* in barbiturate therapy

*when aspirin alone is not enough

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NEMBUDEINE

(Nembutal-APC-Codeine)

filmtab® NEMBUDEINE 1/4

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filmtab® NEMBUDEINE 1

filmtab NEMBUDEINE

(without codeine)

Abbott

EWALD W. BUSSE, M.D. CLAUDE R. NICHOLS, M.D.

The Department of Psychiatry School of Medicine, Duke University Durham, North Carolina

Emotional Disturbances of Older People

Treatment of some common disorders

n recent years the problem of the emotionally disturbed older person has become a major concern of all. The impact of mental illness in this age group is felt throughout our society, as it is the largest single cause for chronic infirmity in senescence. The future is rendered more grave because a rise in incidence of emotionally disturbed hospitalized older persons is above that which one would account for in terms of the increased relative proportion of elderly people in our population. In the past the etiology of emotional disturbance of the senescent period was considered to be due almost entirely to structural changes of the brain, i.e., senile atrophy and arteriosclerosis. Later studies have indicated very little difference demonstrable on autopsy be-

tween the well functioning older person and the institutionalized psychotic of comparable age. What then are some of the factors which contribute to emotional illness during the later years of life? In the course of this presentation, some of the factors which we believe to be important in the etiology of emotional disturbance will be presented. Common manifestations of emotional illness of the aged will be considered along with a therapeutic approach.

Source of Data In 1951 the senior author began a multidisciplinary study of the effect of the aging process on the central nervous system. Initially, the focus of research was directed toward the electroencephalographic changes in aging; however, gradually, the aims expanded. It was felt that many of the factors influencing the aged person should be studied and their interrelationships carefully evaluated. The multidiscipline approach appeared to be the most efficacious manner of studying aging problems. In this way the many facets could be studied by the various disciplines and yet have close correlative value in one general project.

Up to the time of this publication over 600 people have been studied in this research project. The tables on the following page describe the interdisciplinary team, subjects studied, and methods utilized in our research. For a more comprehensive review of the general research project from which our data is derived, we refer you to our previous publications.

Depression A serious problem noted as an important occurrence in our study of "normal" old people was that of recurrent depressive episodes. The occurrence of periods of depression is apparently much more common in the older person than in young adults. The depressed mood varied from feelings of persistent worry to the hope that death might intervene and spare them from further misery.

Subjects from the lower socio-economic group, who were retired or unemployed, had a higher incidence of depressive episodes than subjects in the gainfully employed groups. This finding significantly lends weight to the view that elderly persons who remain gainfully occupied are more apt to remain well adjusted. Along the same line of approach, it seems that orderly planned activities involving active participation of the older person protects

against depressive periods.

Our studies reveal that the retired persons from our high socio-economic group and the people who continued to work after the usual retirement age were very likely to be engaged in hobbies and planned activity. Hobbies seem to be quite important to the well being of these groups, as both were relatively free of depressions. The people requiring hospitalization, however, had little interest in any planned activity.

Certainly as one advances in years, there is a constant attempt at adjustments to the gradual decrement in physical capacity. There is also noted the loss through death of friends and other external supports. Also we observe in this gradually constricting atmosphere the older person's seeking predominantly a planned activity which involves "receiving" with no active participation on their part. Television and radio are probably the most common of these "receiving" hobbies. While this type of activity can add enjoyment, it also may become a detriment to adjustment if it involves too great a part of the person's The older person should have hobbies and activities which require some degree of personal achievement to feel the satisfaction of having accomplished a set goal for which he can have some recognition by others. This, we believe, lends to self-esteem which also protects the patient from depression and other emotional disturbances.

Anxiety, Irritability, and Hostility Overt hostility, either verbalized or manifested by physical expression, is a serious problem in the aged. Usually we see other premonitory signs of anxiety and irritability preceding the actual disturbing temper outburst. Often the patient is known to have been somewhat

Duke Geriatrics Research Project

TABLE 1 INTERDISCIPLINARY GERONTOLOGICAL RESEARCH TEAM

PROFESSIONAL GROUP NUMBER AND SPECIALTY

Anatomy I research anatomist, part time
Anthropology I consulting cultural anthropologist
Medical 7 M.D.'s, part-time

Fields: Psychiatry, Neurology, Ophthalmology, Electroencephalography, General Medicine,

Dermatology, Cardiology Psychology

2 Ph.D.'s, part-time
3 doctoral candidates, full- or part-time
Social Work I full-time (M. A.)

TABLE 2 POPULATIONS SAMPLED (60 YEARS OF AGE AND OLDER)

COLORADO

Psychiatric In-patients (Colorado Psychopathic Hospital)

COMMUNITY GROUP A Indigent and semiindigent volunteers from University Hospital Medical Clinics.

COMMUNITY GROUP B Retired people who were volunteers from National Annuity Leagues (successors to Townsend Clubs) and from church groups.

COMMUNITY GROUP C Volunteers, working past the usual retirement age.

COMMUNITY GROUP D Small valunteer group of physicians continuing to various extents their medical interests and activities.

NORTH CAROLINA

I Ph.D., full-time

Psychiatric In-patients (Butner State Hospital and Duke Hospital)

COMMUNITY GROUP A Volunteers from clinics at the Veterans' Administration Hospital and Duke Hospital.

COMMUNITY GROUP B Volunteer members of Golden Age Clubs and their friends; other non-professional volunteers.

COMMUNITY GROUP C Volunteers still active in full-time occupations.

COMMUNITY GROUP D Professors emeriti and other top-level professional people who have volunteered.

TABLE 3 ROUTINE BATTERY OF EVALUATIONAL STUDIES

- 1. Social history and evaluation
- 2. Medical history
- 3. Psychiatric evaluation
- 4. Physical examination
- 5. Neurological examination

 6. Ophthalmological examination
- Ophthalmological examination, including fundus photographs
- 7. Dermatological examination
- B. Audiometry
- 9. Electroencephalogram
- 10. Chest X-ray

- Microscopic vascular structure and hemodynamics of bulbar conjunctiva ("blood sludging")
- 12. Ballistocardiogram
- 13. Electrocardiogram
- Laboratory studies: Urinalysis, Complete blood counts, NPN; Blood sugar, S.T.S., Cholesterol
- 15. Full-length photograph against grid
- 16. Observations in controlled social situations
- 17. Psychological test data:

Wechsler Adult Intelligence Scale (complete), Rorschach. Level of Aspiration Thematic Apperception Test anxious or irritable following some added infirmity, but little was noticed of any true inciting incident. We see again the importance of physical health in life adjustment. The loss of physical capacity may be quite gradual, and this loss may be followed with vain attempts at compensation in the social setting. As an example, an old man may have had a number of physical setbacks which had taken their toll of his vigor; however, very little was noted as far as his mental attitudes were concerned. Finally, he had a slight fall which caused a chronic limp in his gait. He then became much more irritable toward his family and friends, as he was no longer capable of locomotion which had enabled him to participate in his environment in his usual manner.

We often hear of the family of an older person complain of the temperamental outbursts which an oldster demonstrates. Quite frequently, a careful history will elicit the decline of physical function and the lack of understanding in the environment. Usually, there is a lack of appreciation by the family of the meaning of the loss of physical function to the patient that has caused his overt hostile reaction.

It is in this area that much can be done to handle carefully feelings of the patient so that he can better accept his physical decrement. A good example of this follows: an old man falls in his attempt to climb steps and a member of the family tries to help him to his feet. He angrily denies any need for help and in doing so, upsets his family by his remarks. If he had been told: "we told you not to do that, you have to be more careful," it would only reinforce his insecurity. He is thus reminded that he is no longer an authority, that he can-

not even control himself; however, handled in the following manner, he is able to accept more easily his problem. "I know that this has been unpleasant for you and I am sure that you do not like it, etc." In statements of this type, neither reprimand or sympathy is evidenced; however, empathy is conveyed, and the patient is better able to identify the feelings which he is converting into overt hostility. By this manner of approach, he is able to talk things over with his family about how difficult it has been for him to accept the changes in his physical status. Of special significance for the physician in treatment of such emotional problems is allowing the patient to focus on "feelings." This allows him to bring to realization the problems which have often been a source of anxiety and resulting hostility. It seems remarkable how much more comfortable the patient may become after being "understood."

Hypochondriasis Any physician who treats elderly patients is aware of the high incidence of hypochondriasis in this age group. The person who chronically complains about discomfort usually alienates those in his environment and especially the immediate family. Hypochondriasis is not actually a disease entity, but a syndrome involving anxious preoccupation with the body or a portion of it, which the patient believes is diseased or not functioning properly. Geriatric hypochondriasis is more commonly seen as a symptom of neurosis, psychophysiological reaction, or accompanying a rather severe depression. Some patients present such extreme preoccupation with bodily complaints that a diagnosis of psychoses might be entertained; however, good contact with reality in every other area and the comparative reversibility of illness usually points toward a more benign process.

There are three important features in the dynamics of hypochondriasis, (1) Withdrawal of the patient's interests from persons and objects about him, and the centering of this withdrawn interest upon himself, and specifically upon his body and its functions. (2) The resulting discomfort produced by his illness may be utilized by the patient as punishment and a partial atonement for his guilt feelings which result from his hostile vengeful feelings against people who are quite close to him. (3) This syndrome may be caused by displacement of anxiety from a specific psychic area to a less threatening concern with bodily disease and function.

In the light of the dynamics just presented, let us now consider how we may best approach a treatment program. For example, a man who had no other interests than his job retires from his work. The energy and interest he had tied up in his "life's work" no longer has an outlet. This person is quite apt to focus attention on his bodily functions and may give just as much emphasis to his bodily concern as he did his work. The physician recognizing this dynamic mechanism should then encourage the patient to seek other work or activities of real interest.

It might be stressed at this point that one of the pitfalls in treating a patient of this type would be to confront him with the fact that he has no organic basis for his complaints. To do this would only further threaten his already weakened self-esteem,

The second dynamic mechanism, as outlined, concerns the use of the symptom as self-punishment in an unconscious effort to placate guilt feelings. This mechanism we believe to be less common in our elderly group as compared to younger people. This is related to our belief that elderly people are more apt to turn their hostile feelings toward the environment, rather than toward themselves.

The third mechanism, the displacement of anxiety from some specific area to bodily functioning, is commonly encountered in our elderly population. The loss of social position, or financial security, is anxiety provoking. It is easier to accept the cause for loss of one's chairmanship of a committee because of illness than to accept the fact that one is no longer as capable for that particular undertaking.

Again, the treatment should be pointed at redirecting the patient toward activity which would be both interesting and emotionally satisfying. The opportunity should be given to allow specific anxieties to be verbalized. By doing so, the patient will become increasingly aware of the problems that can then be worked within his environment. The focus is thus on feelings about specific problems of adjustment and no attempt is made to confront the patient with the fact that there is no evidence of organic illness to support his complaints.

Although, in some respects, the psychological defenses for depression and hypochondriases have a close association, we believe, that the central emotional need in hypochondriasis is that of emotional security—"the need for being liked." Depression seems to require a creative reward, or fruits of one's efforts. This is related to the senior author's view of the depressive mechanism in elderly people.

Marital Adjustment Problems

The family physician may be asked to give counsel for another problem area which we see not infrequently as a result of the impact of retirement from work. After many years of a seemingly happy marriage, the husband, following retirement, may find himself in constant quarrels with his wife. This may result in one of the previously discussed mental illnesses, excessive alcohol indulgence, or certainly an unhappy marital relationship. The husband may feel that he has been relegated to the status of a houseboy, assisting with the household chores. The wife, on the other hand, feels that, in many ways, her husband has intruded her domainthe household duties. This problem is made more difficult if both partners have used their respective work over the years as an escape from each other. Now, for the first time in their lives, the earlier unresolved marital problems are activated. The couple's children may

be pulled into the fray and along with their respective families, a side is chosen and, thus, two or three generations may become involved in the "rights and wrongs" of the resulting discord,

This hypothetical case study is chosen as it depicts the possible extent of involvement emotional problems may bring to the family constellation. It also presents the circumstances for developing any of the previously mentioned emotional disorders, the specific disorder being dependent on the basic personality structure of the involved elderly person. The treatment of such a marital problem should be focused toward directing the elderly retired man toward planned creative and recreational activity outside the wife's domain. The resulting marital adjustment to the level prior to retirement would thus obviate the necessity of becoming involved with the many individual personality defenses which had become ingrained over the years.

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Department of Psychiatry, School of Medicine, Duke University, Durham, North Carolina. Surgical treatment in cases caused by Intracranial Vascular Lesions

Subarachnoid Hemorrhage

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Improvement in technical aids now available to the neurosurgeon has lowered the operative case fatality rates of surgical treatment for intracranial vascular lesions to levels of other types of major brain surgery. Furthermore, hemorrhage from these vascular lesions carries a risk to life of approximately fifty per cent, and a risk of serious neurological disability almost as great. Therefore, it is imperative that the patients suspected of having one of these conditions be given the benefit of neurosurgical evaluation, or arteriography and surgery as soon as their condition allows.

During the years 1946-1956, 62 patients were treated surgically for intracranial vascular lesions. The size and location of the lesion was determined by history, neurological signs, arteriog-

raphy, electroencephalography, and occasionally by pneumoencephalography. These vascular lesions have been classified into three groups. 1. Saccular or berry aneurysms of the circle of Willis. 2. Congenital arteriovenous anomalies or varices of the brain. 3. Acquired arteriovenous fistulae of the internal carotid artery and the cavernous sinus.

Aneurysms The largest number of patients have had berry or seccular aneurysms and manifestations by subarachnoid hemorrhage, or the sudden development of focal neurological signs. Since the case fatality rate from this lesion from initial and subsequent hemorrhage is so high, surgery should be considered in all cases. Each patient must be evaluated on an individual basis and the particular operative procedure adopted to secure maximal results with minimal risk.

Aneurysms of the internal carotid artery below its bifurcation should be treated by initial ligation of the artery in the neck, when preliminary compression of the artery is tolerated for thirty minutes without producing neurological signs. If the patient's age and general condition permits, the neck ligation should be followed by intracranial clipping of the internal carotid artery, thus trapping the lesion between clips and ligture, and isolating it from the circulation. Those aneurysms located on the anterior communicating artery are probably best left alone, unless arteriography indicates that clipping an anterior cerebral artery will isolate the aneurysm. Clipping of both anterior cerebral arteries will produce fatal effect.

Middle cerebral artery aneurysms on the dominant hemisphere should be treated by ligation of the carotid artery in the neck. If the aneurysm is on the nondominant hemisphere, and has a neck which can be clipped, intracranial surgery should be done.

Aneurysms in the posterior fossa should be exposed surgically and clipped if they are located on an artery which can be sacrificed with safety. Otherwise, only packing with muscle is justified. Ligation of the vertebral artery is not advised.

The results of surgical treatment are tabulated to show the operative procedures used and the risks of hemiplegia and post-operative fatality calculated percentage-wise (Table I). Five patients had a ligation of the carotid artery in the neck as the only treatment; there were no deaths and one hemiplegia (twenty per cent).

Thirty-five patients had intracranial operations with two deaths (six per cent) and three hemiplegias (nine per

cent). Of the thirty-five patients, sixteen had a combined intracanial approach and ligation in the neck with one death (seven per cent) and two hemiplegias (thirteen per cent).

Of all the forty patients who had neurysms and who were treated surgically there were two deaths (five per cent) and four hemiplegias (ten per cent). All patients surviving operation are alive and have had no recurrence of symptoms nor signs.

Congenital Arteriovenous Anomalies These lesions are probably of congenital origin and often enlarge progressively until their presence is made known by recurrent epileptic seizures, or hemorrhage into the brain or subarachnoid space.

Surgical excision of these lesions can be a formidable task accompanied by high morbidity and death rate in un-

TABLE I

		Hemiplegia		Deaths	
	CASES	NO.	PER CENT	NO.	PER CENT
Occlusion neck of aneurysmal sac:					
With removal of aneurysm	3	0		0	
Without removal of aneurysm		0		0	
Trapping carotid artery between intracranial					
clip and ligation in neck	16	2	13	1	
Trapping aneurysms between intracranial clips	10	1	10.0	1	
Packing aneurysms with muscle	1	0		0	
Intracranial operation of all types	35	3	9.0	2	6
Ligation carotid artery in neck only		8	20.0		
Total	40	4	10	2	5

TABLE II Arteriovenous Anomalies

	NUMBER	DEATH	PERCENT	TO OPERATION	IMPROVED
Excision	. 6	1	17	0	4
Decompression	. 2	0		0	0
No Surgery	. 8	0		0	0
Tota	1 16	1		0	4

selected cases. Furthermore, the risk of life from repeated hemorrhage is much smaller than that from saccular aneurysms. All of these factors mitigate against surgical attack except when one or more of the following conditions are present: 1. Uncontrollable epileptic seizures. 2. History of two or more subarachnoid hemorrhages. 3. Presence of intracerebral hematoma as evidenced by shift of blood vessels in the arteriogram. 4. Location of the lesion in a place where excision can be done without producing hemiplegia or aphasia.

X-ray therapy is not advisable. Ligation of the carotid artery in the neck is seldom indicated because collateral circulation will quickly develop in the lesion from the circle of Willis. Induced hypotension and hypotermia are newer aids which promise to make these operations easier and safer. The surgical results in Table II indicate that removal can be done with acceptable surgical mortality.

Carotid Artery-Cavernous Sinus Fistulae This condition is usually caused by closed trauma to the head with or without fracture of the bones in the region of the cavernous sinus. This arteriovenous mass becomes progressively larger producing a machinery-like bruit, pulsating exophthalmos, ocular palsies, and loss of vision in the affected eye. If untreated, the lesion becomes larger with an increasing neurological deficit and eventual death by rupture.

Initial treatment requires ligation of the internal carotid artery of the neck. If the fistula persists, the internal carotid artery should be exposed and clipped intracranially, thus trapping the lesion betwen the ligature in the neck and the intracranial clip.

A total of six patients have been operated on and cured of this lesion. All of the patients required intracranial clipping after ligation of the internal carotid artery in the neck. There were no postoperative deaths nor hemiplegias. One patient died two years after surgery from rupture of a berry aneurysm on the opposite carotid artery.

Summary and Conclusions

 Sixty-two patients with various types of intracranial vascular lesions have been treated surgically.

2. Forty patients with saccular aneurysms of the circle of Willis were operated on with a case fatality rate of five per cent and hemiplegic morbidity of ten per cent.

3. Eight patients with arteriovenous anomalies of the brain were operated on with thirteen per cent case fatality rate and no morbidity from hemiplegia.

4. Six patients with carotid artery cavernous sinus fistulae were treated by ligation of the internal carotid artery in the neck followed by intracranial clipping of the carotid artery with no deaths nor morbidity.

5. Arteriography in patients who have had subarachnoid hemorrhage will often disclose lesions which are amenable to surgery. The morbidity and case fatality rates of such procedures is such as to allow their routine use in order to prevent recurrent hemorrhage, death and disability.

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Foot Problems of Infancy



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MEDICAL TIMES

and Early Childhood

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The appearance of the infant's foot shortly after birth frequently presents a confusing picture disturbing to nursery attendants, obstetrician, pediatrician, as well as the mother herself.

The deformity of the newborn infant's foot which is of chief concern is that of equinovarus. The appearance of the foot consists of plantar flexion with inward rotation of the hindfoot and medial deviation of the forefoot. This position may be fixed or flexible and for reasons of prognosis and treatment it is extremely important to differentiate between these two forms. The former is the true congenital "clubfoot" which requires early and diligent orthopaedic care in order to affect a rapid and complete cure. The latter is attributable to a positional attitude in utero and exhibits a marked tendency for spontaneous recovery. The difference between the two is generally readily discernible. Although to outward inspection they appear the same, examination of the foot reveals that the foot of the flexible type can readily be brought into the neutral or overcorrected position, while the foot in the fixed, or true clubfoot type, cannot be made to assume the normal position without

undue force. An orthopaedic consultation in this type should be promptly obtained.

The treatment of the flexible equinovarus deformity involves: (1) passive stretching exercise and (2) gentle stimulation or stroking of the skin on the dorsal and outer border of the foot to evoke an active muscular response in the direction of the stimulus. These two maneuvers will hasten spontaneous recovery and within several weeks the foot should have assumed a normal position.

The fixed deformity or true congenital clubfoot on the other hand will not exhibit a spontaneous tendency to recover, but demands early and diligent orthopaedic care. Treatment preferably begins immediately upon recognition of the deformity and as soon after birth as possible.

The recent trend has been toward the use of Denis Browne splints wherein the normal muscular development and activity of the infant produces the motivating force of correction. Under adequate and persistent care the congenital clubfoot is correctable, but due to the marked tendency of the deformity to recur this type of foot demands careful scrutiny throughout the period of foot growth.

A second frequently encountered foot deformity in the newborn is that of metatarsus varus, in which the forefoot shows a medial deviation of the toes and metatarsals. The condition has been likened to and called one-third of a clubfoot. As in the above equinovarus deformity, two forms exist, and demand differential recognition in order that appropriate treatment may be properly instituted. The flexible type is again attitudinal in origin and recognizable by the fact that the forefoot can be readily overcorrected without force. This deformity demands no treatment other than reassurance of the mother and gentle manipulative exercises at those times when the infant is given skin care. The fixed deformity on the other hand requires in its most severe form casts or splints. Milder forms of the fixed type many be managed with passive stretching exercises and corrective orthopaedic shoes. Similar to congenital clubfoot. the fixed type of metatarsus varus untreated is progressive with growth. Its recognition in later childhood when deformity is severe no longer constitutes a problem for conservative treatment. but due to contracted and shortened tendons and ligaments along with adaptive bone changes, requires reconstructive surgery.

The deformity of calcaneovalgus, in which the foot is in dorsiflexion and outward rotation and oftimes lies parallel to the lower leg, is rarely a fixed deformity and there is a tendency for it to recover spontaneously. The etiology of this condition is generally the in utero position. Passive exercises carried out in the nursery and later at home by the mother may be supple-

mented by general stimulation of the skin on the plantar surface to evoke the muscular reaction of plantar flexion of the foot. In those instances where there is concern about the slow correction of the deformity, a felt fashioned pad can be placed on the dorsum of the ankle and held in position by an elastic bandage, or as an alternative procedure reversed Denis Browne splints can be applied to hasten recovery, but as a rule the latter two methods are rarely needed.

Foot problems as a result of congenital absence of bony structures, accessory bones or digits, hypertrophy, and congenital amputations are specific orthopaedic problems and will not be dealt with here.

The position of the feet maintained by the child when he begins to walk is a variable factor; the mother not infrequently complains of a persistent attitude of external rotation of the leg, or legs. This usually is the result of an an attempt by the child to accomplish better standing and walking stability. The position of the feet is usually undergoing a transitional postural phase until the infant develops a better walking balance. In order to assist the child in developing a more secure walking equilibrium stiff soled hightop shoes are far superior to the frequently applied dainty soft variety which have little to offer in the way of stability. Persistent walking on the toes after walking has become established warrants investigation for such possible causes as contracture of the heel cords incident to polio myelitis or spasticity due to cerebral palsy, but more frequently it is an individual walking habit. During the first three years of infancy the attending physician's attention is occasionally directed to the abnormal mass on the inner

aspect of the foot, especially in obese children. The mass is the normal prominence of the plantar fat pad which disappears by the fourth year.

The "pigeon-toe" position of the foot during the first decade has many possible causes, a few of which cannot be lightly dismissed with the statement that the child will outgrow the tendency. "Pigeon-toe" deformity may accompany an internal torsion of the tibia, and is correctable when treatment is directed toward the source of deformity in the tibia above. It may also be a result of an untreated congenital metatarsus varus readily discernible by x-ray of the deviated and fixed metatarsals, or it may reflect the internally rotated position of the entire leg due to spasticity of internal rotators of the hip resulting from cerebral palsy.

By and large the greatest single factor in the causation of the so-called "pigeontoe" deformity is a medial deviation of the forefoot coincident with the persistent habit of maintaining the foot deformity in sitting and sleeping. The child not only walks awkwardly, but is clumsy and frequently trips himself because of the deformity. The tot most often sleeps on its stomach with the feet turned in and habitually sits with the feet doubled underneath, or on his knees with the foot rolled inward. This type of foot is guite flexible to examination and there is no fixed deviation of the metatarsals by x-ray. The muscles of the lower extremities are of normal tone, and there is no accompanying bony deformity above the foot. The cause of the deformity will be readily apparent when the child is allowed to assume his abnormal sitting position. When the mother is made aware of the cause of this condition, measures may be directed towards

changing the child's sleeping habits by placing a tightly rolled blanket under the abdomen, or the mother may simply allow the child to go to sleep and later straighten out both feet and legs. A few children in the age group of 2-5 require additional measures of mechanically holding the feet in external rotation. This can be accomplished by attaching to the shoes a removable night splint or bar which effectively holds the feet in outward rotation and can be detached for daytime activities. The sitting position can usually be corrected by allowing the child to sit on a stool while at play rather than on the floor. In the older child roller and ice skating exercises are an effective means of correcting the intoeing tendency. Outflare shoes and outer border sole wedges alone will not correct the flexible postural deformity.

By far the most common foot problem in childhood is the flatfoot, of which the general public is becoming more aware, due to the combined efforts of the doctor, public health nurse, teacher, radio, television, and shoe salesmen. The valgus relation of the hindfoot to the ankle is the normal position of the heel and foot in infancy. This is due to the fact that ligamentous structures are more relaxed along the inner than along the outer border of the foot. The infant likewise feels more secure with the feet in this position. The picture of an extreme flatfoot is presented by the position of hindfoot valgus and a normally prominent plantar fat pad. This is the typical appearance of the infant's foot until the age of 21/2 years, when the arch begins to develop and the foot assumes the adult shape. Occasionally the child with moderate valgus of the hindfoot requires an inner border heel wedge to assist him in walking, but marked

valgus suggests deformity of more serious neuromuscular disease such as cerebral palsy or poliomyelitis.

Flatfeet after the age of 3 require careful scrutiny and evaluation before treatment is instituted. Not infrequently the child is presented by anxious parents requesting that the child's flatfeet be treated in order that the feet will not appear as "flat" as its parents'. Obviously no conservative treatment with shoes, supports, and/or exercises will result in a normally arched foot; however, where

one or both parents have suffered foot and leg symptoms because of abnormal foot support creating foot strain, all efforts should be directed toward strengthening of the child's ligamentous and muscular apparatus by appropriate shoes, wedges, supports, and exercises. If there is a strong hereditary background for the valgus and/or pronated flatfoot deformity without symptoms, no treatment is indicated. This situation is similar to the normal flatfoot of the negro which is a racial characteristic.

Summary

Differential factors necessary for proper evaluation of the foot deformity in the newborn, infancy, and early childhood are discussed from the standpoint of etiology, diagnosis, and treatment.

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Infectious Hepatitis: Report of an Outbreak Probably Caused by Drinking Water

"Eighteen cases of infectious hepatitis in Daviess County, Kentucky, were investigated, and the epidemiologic evidence concerning transmission is presented. It is felt that at least 9 of the cases were due to ingestion of water from private wells contaminated from the first known case. A survey of sanitation was carried out and indicated contamination of these wells. It is believed that water-borne hepatitis may be more frequent than is reported, particularly in rural areas, where water supplies are often poorly protected."

James W. Mosley, M.D. and W. W. Smither, B.S.C.E. New England Journal of Medicine, Vol. 257, No. 13, P. 595

HYPNOSIS

and the General Practitioner

he purpose of this paper is to point out to the many general practitioners who have access to this medical journal the advantages of learning the technique for inducing hypnosis, and the practical application of it in their everyday practice. The discussion will be limited entirely to my own personal experiences. All case records have been taken from my files during a consecutive eight months period of my general practice in a city of 13,000. No attempt will be made to go into detail regarding the technical procedure of inducing a hypnotic state, or into detail with case description, but merely to point out the various and sundry uses and experiences I have had with hypnosis in my role as a family physician.

Obstetrics I discuss hypnosis with all my obstetrical patients and if they want to try it, they may. I would estimate that 70% desire hypnosis, and approximately one-half of these will enter into a satisfactory trance with results ranging from some relief to total relief of labor pains.

Three patients will be described

showing the various results that may be obtained.

Case #1 Mrs. J.G., para four, gravida five, was prepared for hypnosis, beginning about the sixth month, and was induced during prenatal visits to a depth considered likely to be satisfactory for complete relief, or nearly so, of her anticipated labor. Labor began about 4:00 a.m. with close, hard pains. Her husband, who is a diabetic, had an insulin reaction when he started to get a neighbor woman to take care of the other children preparatory to taking his wife to the hospital. This delayed her entrance to the hospital by more than a half-hour. By the time I saw her she was dilated up to four fingers and in very active labor. I attempted hypnosis by previously trained suggestive signal which was completely ineffectual. I could not induce a trance, apparently because of the rapidity and severity of her labor pains. Light ether anosthesia was given and she was delivered about twenty minutes after entering the hospital. Immediately following her delivery she was easily hypnotized and given a post

hypnotic suggestion that she would have no recollection of her labor. This condition remained until she came to the office for her six weeks check-up at which time she wanted to know about her labor. She was rehypnotized and told she would remember about her labor but not concerning her pains. She was quite satisfied with the help the hypnosis gave her although, as far as I was concerned, it was a complete failure.

Case #2 Mrs. C. T., age 22, para O, grava one, entered the hospital when about dilated about two fingers in active labor. Under hypnosis she had been taught to use self induction by putting her thumbs together at the onset of pains. With this technique she had complete relief of pains until she was dilated about three and one half fingers, when self hypnosis was no longer effective. I then induced a deeper trance and she continued until about twenty minutes before delivery when her pains became very severe, requiring additional sedation with ether for the actual delivery. episiotomy, and suturing. She also was given a post hypnotic suggestion of not remembering any procedure of her delivery and to this day she is quite gratified, feeling that she had complete relief of labor pains, and not even realizing that she had had any ether. I would classify this patient as seventy to eighty percent satisfactory for delivery by hypnosis.

Case #3 Mrs. P. W., para two, grava three, used self induction of hypnosis with each labor pain before coming to the hospital and was seen when she was about three and one half fingers dilated. She was still inducing complete hypnosis by self induction with each pain, awaking herself between pains. When dilated to four fingers I induced a deeper trance

and kept her there for the episiotomy, spontaneous delivery and suturing. At no time did she register distress, having complete relief of pain and no sensation of any discomfort at any time. I would classify this patient one hundred percent satisfactory.

Phobias It is surprising how many patients we meet in general practice who have phobias. Not until I became interested in hypnosis was I aware of the multitude of various phobias which patients have and the discomforts which arise from them. Three such patients will be described, all of whom were treated by hypnosis purely for the purpose of relieving these phobias.

Case #1 Mrs. D. R. gave a history of being afraid of anything that had feathers. She would not eat tuna fish for fear that somebody had mixed chicken in with the fish. On one occasion she went to Washington, D. C. for a visit, and soon returned because of the multitude of pigeons in the city. They literally drove her to distraction. She stated she would walk around blocks in order to avoid pigeons she could see in the block ahead. She was a good subject and was easily hypnotized with her first session. She was regressed back to the time of the experience that caused this phobia, which occurred at the age of five years. When she was playing in the yard a bantam rooster chased her, and pecked her considerably before the mother could rescue her. She was not consciously aware of this experience. She did remember consciously that there were bantam roosters at the neighbor's house, but she had no recollection of the experience until it was brought to her attention through hypnosis. She has been completely free of any fear of birds, feathers, or chickens since this time.

Case #2 Mrs. N. V. had been hypnotized originally for preparation for childbirth, and incidentally, had a very satisfactory delivery under hypnosis. During one of the sessions, I liberated from her the fear of the dark. This patient was absolutely unaware of any experience she had ever had to cause her to be afraid of the dark. Under hypnosis I was able to regress her back to an experience she had had when she was seven years of age. At that time she was playing on the back porch on the second floor (at night). She had the feeling that someone was coming up the stairs and was going to throw her out into the darkness, and that she would just disappear or melt away. She actually cried under hypnosis when she was describing the incident. She was told to remember the experience when she was awakened from her trance, and that she would no longer be afraid of the dark. She has remained completely free of fear in completely darkened rooms even when alone. She says this is the first time she can remember in her life. that she was able to spend a night in the house without her parents or husband, or with the lights on, without being fearful.

Case #3 This was a high school junior who was afraid to go to school, Miss M. H. After she got inside the school she was perfectly all right; it was only in the process of going that she was afraid. At times the parents were unable to get her to go to school for three or four days at a time. She had been examined by several doctors to try to find some reason for it. None of them was a psychiatrist, and none had any suggestion as to why she was afraid. I had taken care of this girl for her entire lifetime, having written her excuses from gym be-

cause she was unable to play without becoming so nervous she would vomit.
Under hypnosis I was able to find the
experience that had created this fear. It
occurred at the age of six on the playground at recess time when one of the
students pushed her against the side of
the building, giving her a severe headache. After her hypnotic experience
she finished the last five months of
school enjoyably without missing a day,
instead of having the fear of going to
school.

Neurogenic Conditions

Case #1 Neurodermatitis-This condition occurred in a high school girl, a senior, M. B. I have treated her for neurodermatitis from the time she was in the fifth grade. Every winter the neurodermatitis occurred, becoming much worse in the early spring and nearly healing in the summer time. With ultra-violet radiation and phenobarbital in large doses. I was able to control it to quite a degree. However, when her mother finally permitted me to hypnotize her. I was able to find the reason for her nervous condition during the school year. At the time she was in the fifth grade, she became very much aware of what school grades meant, and she was afraid that she would not get A's in all of her subjects. When it was explained to her under hypnosis what caused this nervous condition, and was told that because she now knew why she had been nervous through the school year, she would not be nervous any more. She was told she would have no itching of the skin, that the lesions would heal because they would not itch and she would not scratch, and that she would have no nervousness. On awakening there was complete cessation of itching

and there has been none since. Within forty-eight hours there was a marked improvement of the skin condition and within two weeks there were no signs of any neurodermatitis. It has not returned. The mother reports that this girl was much more sociable at school, much more friendly, and seems to be a much happier young lady all the way around. The family and the girl are exceedingly grateful for the improvement that has been given her through hypnosis.

Case #2 Nail Biting-This was also one of the pregnancy patients, Mrs. M. C. I noticed that her nails had been chewed very close to the skin. Upon inquiring about it I found that she had been chewing her nails as long as she could remember. She is a very good subject for hypnosis and has not yet delivered, but I am quite sure she will be one hundred percent satisfactory as a very good depth was obtained during her first trance. Under hypnosis she was regressed back to the time she started chewing her finger nails at the age of four, the reason for it being that her mother would not let her listen to the Lone Ranger on the radio. She has been seen several times since this experience. and has not vet had any desire to chew her nails. She is quite proud of the fact that recently she even had to file them because they were getting too long.

Case #3 Neurogenic choking—This patient is a woman, Mrs. L. R., thirty-three years of age. She gave a history of never being able to go out to eat an expensive meal because she always choked on it. Her husband was very much disturbed because before meal was over she would start to choke and they would have to leave. She never was troubled eating at a hamburger shop or a drive-in. Under hyp-

nosis she was regressed to the time when the experience occurred. I found that when she had been married about two years she went out with her husband and a friend of his to have a T-bone steak dinner. She stated that she felt fine as she was eating the steak, but all at once she started to choke. When asked why she was choking, she stated that it was because her husband's friend was going to have to pay for the meal, and she suddenly realized he couldn't afford it. She had no recollection of having had the experience prior to hypnosis but during hypnosis it was explained to her why she has subsequently choked. Also, she was told she would remember the experience on awakening. Now she is able to go to hotels and nightclubs and enjoy the most expensive meal without a sensation of choking.

Case #4 Duodenal Ulcer-This is an instance of duodenal ulcer in a boy twelve years of age, D.G., who was a problem child, both at home and at school. The parents told me that he was a troublemaker and they couldn't rely in him at all. The principal of the school called and wondered if it would be all right to "man handle" him because of the trouble he was causing. They had tried every other method and couldn't get him to behave. Among the complaints the school teachers had was that he ate candy all the time in class and they couldn't get him to stop. I requested the parents to keep him on a very strict diet, not allowing him to eat between meals. The next time he came to the office he gave a very typical history of duodenal ulcer with his pain coming on about an hour and a half after meals and lasting until he ate again. X-ray of the upper gastrointestinal tract revealed a very definite duodenal ulcer.

It was explained to the parents that I felt he was doomed to have a duodenal ulcer the rest of his life if we could not correct the basic problem behind it. I thought that if we treated him medically, the ulcer would no doubt heal but would recur again and again. I suggested we try hypnosis and if we failed with that, then to resort to the classical treatment. They were most cooperative and the boy also was cooperative. With some difficulty he was hypotized and on subsequent sessions deepened until a deep enough trance was obtained to get the information I wanted. I found that his trouble at home primarily concerned a twin brother and sister who were some four years younger. They were always teasing and annoying him but, because they were smaller, he wasn't permitted to fight back. As for his school problem, there had been a teacher whom he had disliked intensely, and he associated all teachers with this one unfortunate experience. By hypnotic suggestion I was able to correct his attitude toward both the school and the children at home. Within a week he was free of all pain and in a few weeks' time he was decidedly improved insofar as his attitude toward school and the twins was concerned. Regarding his medical routine, I gave him permission to eat anything and everything, any time he wanted it -peanuts, popcorn, candy, in between meals and at bedtime. He was given no medication whatever, and no mention was made of giving him any medication. At the end of two and one-half months he was re-x-rayed. The ulcer had completely healed without scarring which is quite unusual for any duodenal ulcer. None of his symptoms has returned nor has he required any further hypnotic

sessions since his last x-rays taken over five months ago.

Psychogenic Problems

Case #1 Mrs. R. G., age thirty-two, came to the office complaining of sore throat. The history she gave was that of having a sore throat for the past six weeks. It was a very unsatisfactory type of history, nothing definite could be said about the throat which would make one feel it was any particular type of condition. She was given a routine examination which revealed absolutely nothing. There was no evidence of redness in the throat. There was no fever, nor any condition in the sinuses, ears, etc., that would justify any complaints such as she had. Inquiring into her work, I found that she was a secretary and that her boss was being transferred. Though she stated that she was not worried about her job, it was evident to me that she was at least trying to convince herself that she was not concerned. I hypnotized her and inquired further under hypnosis and found that she was very definitely concerned about her job. It was explained to her that she had used the sore throat as a defense mechanism. She accepted this very graciously under hypnosis and when awakened, she was absolutely free of her sore throat, saying that it felt better than it had at any time in the last six weeks. As a side light, several days later her husband came to my office with her, very critical of me because I had hypnotized her for a sore throat, feeling that by hypnosis I had covered up some serious condition that she must have had. He insisted that she see another doctor. Since that time I have talked to the second doctor to whom she went, and he corroborated my findings. She has not had a sore throat up to this time, and he in turn sent her to an internist who performed every conceivable test on her. I talked to him also and he gave a report that he had never seen a more healthy individual. To the best of my knowledge she still has not had a sore throat since that time, though her husband is very much upset by the fact that his wife was cured by hypnosis in one office call, and has paid a considerable sum for further examinations to try to find an explanation for the sore throat his wife previously had.

Case #2 Mrs. M.J. This is an interesting example of what can be accomplished with hypnosis. Mrs. J. was out in a small cabin cruiser on Lake Erie. She felt perfectly fine until she went into the cabin and another boat went by causing the boat to rock. On leaving the cabin she felt extremely seasick, but did not vomit. After ten minutes time she had not improved. Having previously hypnotized her, I hypnotized her again and explained to her that when she awakened she would feel perfectly. fine without any nausea whatever. In not much longer than it takes to describe it. she was awakened feeling perfectly well. In fact, a half hour later she ate a meal on the boat while it was still rocking. She had no more sea-sickness that day.

Case #3 I am not certain whether this next patient should be classified as psychogenic or not, but until some better explanation can be given, I feel she should be. Mrs. McG., a housewife, age fifty-six, came to the office complaining of pain in the left shoulder. She had a history of pain all the time for the past six weeks, and practically every night it became much more intense. She would have to get up once or twice, rub her

arm and swing it to get relief. She seldom, if ever, had any severe pain in the daytime, but knew that every night she would be so affected. On thorough examination, no explanation for the discomfort in the shoulder could be found. She was hypnotized, and under hypnosis she was told that the pain was due to a muscle spasm that occurred at night as a result of the position in which she was sleeping, but that tonight when she went to bed those muscles would remain relaxed, and she would have no pain the next day, nor at any time in the future. Upon awakening she found she was completely free of pain in the shoulder, could move it in any direction whatsover without any pain. Though this hypnotic treatment was well over three months ago, to this date she has had no recurrence of the pain, either day or night. She had but one treatment by hypnosis.

Miscellaneous

Suturing—Two patients were injured, one with a cut on the finger and the other on the head. Each had been hypnotized previously. They were hypnotized for the purpose of suturing and both stated that they had absolutely no pain.

Hypoglycemia—This young lady, a nurse in my office, has had hypoglycemic reactions for a number of years. On several occasions I have hynotized her and told her she could liberate glycogen from her liver through her subconscious mind and free herself of her symptoms. Strange as it may seem, she would awaken feeling perfectly well, without any more trouble for a period of another hour or two by which time she could have her meal. On one occasion when she was having such an action, I drew blood for a sugar determination

from her. I then hypnotized her and told her again that she could liberate glycogen and raise her blood sugar and relieve herself of her symptoms. I awakened her and in about five minutes after the first blood was taken, I drew another. The blood sugar determination on the first specimen was 76, on the second it was 84. Although this is not a marked increase, I feel that together with relief of her symptoms it is signficant. If it is possible through nervous reaction to raise hives and welts, such as you get in angioneurotic edema, why is it not possible for your nerve stimulation to liberate glycogen from the liver by hypnosis?

Appetite-Two patients will be described, one who desired to lose weight, and the other who desired to gain weight. Mrs. J. B., age twenty-nine. To clarify her present situation, I would like to go back to August, 1951. At this time Mrs. B. was three months pregnant with her second pregnancy and weighed 201 lbs. She gave a history of having gained fifty-one pounds with her first pregnancy. At her last prenatal visit in March, 1952, she weighed 236 lbs., having gained an additional thirty-five pounds with this pregnancy. The baby weighed eight pounds, eight and one half ounces. In December, 1954, she began having frequent attacks of migraine headaches and received histamine therapy for the next year with fairly good results. In January, 1956, she presented herself again with her third pregnancy and weighed 194 pounds. In August, 1956 at her last prenatal visit before delivery she weighed two hundred and forty-four The baby weighed eight pounds. On February 28, 1957, she had her first hypnotic session for the pur-

pose of weight loss, at which time she weighed two hundred twelve and one half pounds. Several sessions of hypnosis were given following this for the purpose of reinforcing the hypnotic suggestion. During the month of June she lost but one pound of weight, and at this point, under hypnosis, we were able to find the apparent cause for her weight gain. She told me that she started to gain weight with her first pregnancy, because she had the idea, that if she would eat a lot her baby would be healthier than if she just ate an average amount. She never completely lost this excess weight and with both her subsequent pregnancies she gained more than she should have, although she was constantly advised to control her eating. After this hypnotic session she continued to lose weight without any disturbance. She has had no medication, makes no particular effort to lose weight, only through the fact that she desires to eat only the things she should, yet she loses weight. The last weight I recorded on her on Aug. 29, 1957, was one hundred seventysix pounds. She has reported to me since then that she has continued to lose weight without any trouble. Incidently, she was also taught self hypnosis to control her migraine headaches. She has them very infrequently and can immediately obtain relief by auto hypnosis, awakening completely free of head-

The next patient is Mrs. F. B., a highly nervous, underweight, individual. She spent over a month at a large midwestern clinic, trying to account for her nervous tension and underweight. She was placed in a psychiatric ward for three weeks there, apparently without any benefit, and states that she was told

to go home and eat. Though she tried repeatedly to eat more, she found it impossible. When I saw her first she weighed 89 lbs. Through hypnosis and hypnotic suggestion a definite appetite was created and her last weight was one hundred and eleven pounds. She is feeling fine, is not disturbed with her nervousness any more, takes an occasional dose of Sparine® when her tension is too great. She and her husband both feel that hypnosis did her a great deal of good.

Differential Diagnosis—Two cases will be reported where hypnosis was used as an aid in differential diagnosis. The first, Mrs. S. R., presented herself on the eighth day following her delivery of her first child, with an apparent Bell's palsy. After examination the diagnosis of Bell's palsy was decided upon. She was easily hypnotized and regressed back to before the time of her delivery and again examined under hypnotic state. There was no change whatever in the paralysis of the right side of the face, establishing the correct diagnosis of Bell's palsy, instead of possible hys-

teria following her childbirth. The second patient was Mrs. H. M. This patient had a progressive weakness of the upper extremities, but it was noted that at times when she was asked to raise her left arm up to her face, she could move it very little. However, sometimes she would subconsciously raise the arm to her face. If she were asked immediately after that to repeat the action she couldn't do it. With this observation it was thought perhaps the condition might not be organic but functional. She was hypnotized and regressed back to several years before she had shown any signs of this apparent paralysis and was asked under hypnosis to go through certain motions which she was not able to do any better than when she was examined in a wakeful state. She was given some post hypnotic suggestions with improvement in appetite and well being, which did make her feel better, but it was of a temporary nature. She progressively became worse and died several weeks following the hypnosis with an established diagnosis of progressive spinal muscular atrophy.

Summary

These are a few of the many patients I have seen in general practice in the past eight months. If one is really interested in hypnosis, he will find that he will use it practically every day, and sometimes as many as five and six times a day, with satisfying results both to the patient and to the doctor. If this paper has stimulated your interest in hypnosis it has served its purpose.

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COMMON PITFALLS

in the Management of Labor

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The past two generations have seen a marked reduction in maternal mortality and morbidity due principally to prenatal care and the hospitalization of patients for delivery. However, a number of complicated situations continue to occur in labor which are hazardous for both mother and baby. These situations are usually due to an unrecognized abnormality (pitfall) and considerable damage may have occurred by the time the true situation is known.

Failure To Recognize That The Patient Is Not In Active Labor This pitfall is not deep unless the attendant takes action without realizing true labor is not present. The patient is in active labor when there are uterine contractions resulting in progressive effacement and dilation of the cervix and/or descent of the presenting part. Frequently in false labor the patient will demand and receive doses of sedation which will cause her to sleep for several hours. When the patient is examined at

a later hour and it is found labor has not begun, there is a tendency to rupture membranes and to give oxytocic substances to stimulate the onset of labor. Occasionally these procedures are done in unfavorable situations and there may be a very difficult labor before delivery is accomplished.

The failure to recognize primary uterine inertia is similar. These patients have had too much sedation in the very early stages of labor and frequently the contractions are completely stopped. Primary uterine inertia usually occurs in primiparous patients. The uterine contractions occur at irregular intervals and usually last 25 to 35 seconds and the patient complains more severely of pain. The wall of the uterus can be easily indented during a contraction. After the diagnosis of primary uterine inertia has been made the best results are obtained by omitting all sedation. Artificial rupturing of membranes and/ or intravenous Pitocin® drip stimulation may be used in some cases. If satisfactory progress is not made in a reasonable length of time delivery by cesarean section is usually advisable.

Failure To Identify The Presenting Part There is no way to detect an abnormal presentation without carefully examining the patient in labor. If a vertex or breech presentation is known to be present, labor is allowed to progress with the usual plans for management. If the attendant cannot be certain of the presenting part by his abdominal and rectal examinations, a vaginal examination should be done and/or an x-ray film of the abdomen should be taken. A transverse lie or compound presentation must be recognized early in labor if these infants are to be saved.

Failure To Recognize Disproportion Will the fetal head go through the pelvis? This is a question that should be asked and answered at the onset of every labor. Usually private patients have been evaluated by vaginal examination and in many instances by x-ray pelvimetry prior to onset of labor. However, frequently one is asked to manage unassigned obstetrical patients many of whom have never been examined by a physician during the pregnancy. Also, a physician is frequently asked to manage a colleague's practice while he is away, and there is a need to evaluate these patients at the onset of labor. Even if the pelvis has been checked out satisfactorily by the usual methods, this question should be kept in mind during labor, if progress is not satisfactory.

Pelvic measurements by x-ray pelvimetry are not always the last word in solving disproportion problems. Over a period of years it is not unusual to accumulate several cases in which the radiologist predicted that a normal la-

bor would take place and the patient subsequently required cesarean section for disproportion. Conversely, in a number of instances the radiologist will predict that the pelvis is too small and a cesarean will be necessary. Frequently these patients are admitted directly to the delivery room with the caput showing and delivery imminent. Factors such as the size of the baby, position of the presenting part, quality of the uterine contractions, and moldability of the fetal head all have something to do with whether delivery is possible from below. Also, uterine tumors or ovarian cysts in the cul-de-sac will obstruct labor.

Failure To Recognize The Patient In Poor Condition Frequently, a patient may be admitted in labor and it may have been several weeks since she was seen by her attendant. Consequently, an examination should be made in the labor room to determine if toxemia is present. A blood pressure recording should be made shortly after admission and within several hours an urinalysis should be done. Occasionally a patient who has been followed very closely in her prenatal care will be admitted with an anemia. Apparently this is due to either a dietary deficiency or failure of the body to utilize properly the hematinic elements. A hemoglobin determination should be done promptly after admission and blood transfusions given if necessary. In labors of over eight to twelve hours, the patient may become dehydrated and show some disturbance in the electrolyte balance. It is very easy now to check a voided specimen of urine for acetone and if positive prompt measures should be taken to correct the condition. Other conditions which can make a labor hazardous are urinary

tract infections, upper respiratory tract infections, a full stomach, or gastrointestinal upsets.

Failure To Recognize Fetal Complications In spite of prenatal care and the attention given during labor and delivery occasionally a stillborn will he delivered. Auscultation for the fetal heart tones should be done as soon as the patient is admitted to the labor room. If the tones are not heard then the patient and family should be promptly notified of the situation and made aware of the possible consequences. Failure to frequently record the quality and rate of the fetal heart tones will not allow the attendant to determine embarrassment of the fetus. Conditions that may cause fetal distress due to anoxia are very hard labors, prolonged labors as in uterine inertia, prolapse of the umbilical cord, occult prolapsed cord and partial premature separation of the placenta.

Failure to recognize that a premature infant is in the uterus may frequently cost the life of the fetus by giving the mother too much sedation. The height of the uterus should be measured shortly after admission and if the uterus is not of sufficient size then the attendant should expect a premature delivery.

Twin pregnancies will not be recognized unless a careful examination is done. Occasionally a patient will be admitted to the hospital with a term size uterus, but the history indicates she is only seven months pregnant. All too frequently little attention is paid to this discrepancy and she is treated as a term pregnancy in active labor and heavily sedated. It is only after small depressed twin infants are delivered that the true situation comes to light. A routine abdominal examination should be done

and if there is any question of a multiple pregnancy an x-ray examination of the abdomen is indicated. Not only will this film be of value in determining the presence of twin premature infants, but also information may be obtained which can rule out Siamese twins or potentially locked twins.

If there is something unusual about the findings on the abdominal, rectal or vaginal examination, a film is indicated to rule out the possibility of a fetal monstrosity. Some of these monsters require an unusual operative delivery and preparations should be properly made in these instances.

Failure To Recognize Arrest In The Progress Of Labor Primary uterine inertia has been mentioned previously. Secondary uterine inertia is present when after a period of fairly good active labor the uterine contractions completely cease or become few and far between.

This condition is usually present when there is some disproportion or other abnormality present, and its occurrence should immediately call for a thorough investigation of the situation by the attendant. Labor may not progress due to arrest of the presenting part at the inlet of the pelvis. If after an adequate trial of labor with ruptured membranes the presenting part has not engaged the inlet then evaluation and action is necessary.

By far the most frequent cause of arrest in the progress of labor is obstruction to descent of the presenting part at the mid-pelvis. The fetal head may be arrested by the ischial spines or a prominent coccyx in the anterior, transverse or posterior position. With good labor, ruptured membranes and a completely dilated cervix the presenting shortly in most all nonobstructive cases. If this does not occur an examination should be made. Many of these cases

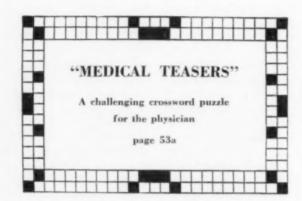
part should bulge the perineum very will deliver spontaneously or with low forceps after sufficient molding of the fetal head takes place but occasionally a mid forceps delivery is necessary.

Summary

Glancing back over this list one will see that to prevent falling into these pitfalls one must examine one's patients in labor shortly after admission and adequately follow them from time to time during the course

of labor. An attendant who manages his labors by telephone will find that he has far more than his share of unusual situations and complications.

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Referral of the Psychiatric Patient

he whole field of the practice of medicine with all of its specialties involves dealing with illnesses which can be ranged along a spectrum from (1) those in which the involvement is purely physical, (2) through those involving both soma and psyche, (3) to the other extreme of purely emotional involvement. Treatment in any area of medical practice would likewise fall into a similar arrangement, from those in which purely physical therapies are primary, through the areas in which joint management by physician and psychiatrist is to be preferred, into the range where treatment of choice is purely psychiatric. It is no wonder then that physicians frequently ask psychiatrists, "whom do we not refer, whom do we refer, and how do we go about it"? These are the very matters we would like to discuss in this paper.

Whom Not to Refer One of the conditions in which the physician should

consider the inadvisability of psychiatric referral, is when the patient suffers with a chronic fixed psychiatric condition with chronic long standing symp-

tons which have become so much a part of his personality as to be irreversible. An example of this would be the chronically ill patient who obviously is getting more unconscious gratification out of his illness than one would expect him to have otherwise.

In these patients there would be very little to be gained by psychiatric referral, since the secondary gain from the illness is well established, and in such instances psychotherapy and other psychiatric procedures will be pretty ineffectual. Then too, such a referral might be frustrating to these patients it would not only arouse their ex-

since it would not only arouse their expectations of symptomatic relief, but also threaten them with facing the very problems they have avoided so strongly.

The second type of patient the physician might hesitate to refer is the potentially psychotic patient who is precariously balanced-perhaps maintained in a state of equilibrium by a good relationship with his physician. The disruption of this equilibrium might tip the scales in the direction of a complete breakdown, as a result of the physician withdrawing, rather than asking for psychiatric consultation which in itself would not precipitate psychosis. Included among this group would be those patients with shallow, protective physical symptoms who, without these symptoms, might become psychotic. Such individuals will often return to the physician complaining of these symptoms not so much because they want

relief, as because they are looking for a relationship. (We can not help but be reminded of the story of the resident psychiatrist who hypnotized a patient and removed his headache only to be confronted with a full blown case of paranoid schizophrenia.) The experienced practitioner knows full well that symptoms are sometimes protective, and would no more think of removing them without further understanding than he would of giving morphine in a patient suspected of having acute appendicitis.

It goes without saying, of course, that superficial problems (by superficial we want to emphasize again that we refer not to the symptomatology so much as to the underlying pathology) that can be handled by the physician himself need not be referred. These might include acute situational maladjustments, transient anxiety states, or even personality problems which can be resolved with support from the patient's own physician.

One additional point, a good many physicians will notice that they are especially adept in handling certain types of emotional problems, and in this case be quite capable of going beyond just superficial psychotherapy, and actually be treating in a relationship type fashion some of the mild to moderate emotional conditions which seem suitably handled by their special capacities. For example, the physician, who by the nature of his own personality is inclined to be more permissive, can help the adolescent with guilt over sexuality, adopt a more wholesome attitude toward his sexual impulses, whereas the physician, who by virtue of his personality is inclined to be more firm, can help the acting-out adolescent grow to have more adequate controls over his impulses. It

goes without saying that the physician can often talk over such cases with a psychiatrist and perhaps glean further understanding of them.

Whom to Refer The decision as to whom to refer to a psychiatrist is based not so much on a consideration of diagnostic categories, as it is upon the individual problem and the depth and intensity of the disturbance, rather than surface manifestations. By this token, the patient who on the surface appears to be extremely disturbed may have relatively minor underlying pathology which could be handled by the physician himself. Conversely, apparently not too disturbed patients may be suffering from severe underlying pathology, the eruption of which could create an acute psychiatric emergency. As examples, rather intense gastric complaints on a functional basis might merely reflect the recent experience of a death in the family due to gastric carcinoma and be based mainly on a superficial concept. whereas incidental mention of gastric symptoms could be connected with the delusion of ground glass being put into the food by enemies, and these symptoms, mild in degree, might be masking a severe paranoid schizophrenia.

The physician might then refer first, those patients in whom he wants some diagnostic clarification, second, those in whom he wants some help as to how he can perhaps better handle them himself; and third, where specialized psychiatric treatment will be indicated. Essentially then, referral will consist largely of those patients whose visit to the psychiatrist will either benefit the patient directly, or help the referring physician to better understand and handle that patient's problem himself—or result in joint management.

A brief outline of patients who might be referred would include anxiety states. hysterias, vegatative neuroses (psychosomatic disorders), personality problems, sexual disorders, depressions and psychoses, as well as those situations where emotional problems appear to be interfering with or blocking adequate treatment of a physical illness. Particular mention should be made of the problem frequently encountered by the physician of the patient's suicidal potential. There is, of course, no hard and fast rule for this. It should be pointed out that verbal expression of suicide wishes, although perhaps less indicative of suicide, does not necessarily mean that the patient is not suicidal. Suicide attempts may occur in any of the following diagnostic categories:

- 1. Hysterical personality
- 2. Delirium
- 3. Acute alcoholism
- 4. Acute schizophrenic reaction
- 5. Paranoid states
- 6. Panic states
- 7. Depressed phases of physical illness
- 8. Reactive depressions
- 9. Manic depressive psychoses

Bearing in mind the above categories, the possibility of suicide should be seriously considered where some or all of the following signs are present, as pointed out by Levine.*

- 1. Deep moods of depressions (as in the manic depressive).
- Concealment of thoughts about suicide.
- Vegatative signs of depression such as anorexia, weight loss, insomnia, constipation, amenorrhea and loss of sexual interest and potency.
- Depressive delusions such as "It is I who caused the last great war to begin."

- 5. Past history of suicide attempts.
- 6. Absence of feelings of affection.
- Unreality feelings (as in the acute schizophrenic).
- 8. Increased tension (as in the panic state).
- Motivation of strong unconscious feelings of hatred without satisfactory outlet.
- 10. Sudden and dramatic changes in aggressive behavior (as for example, the terror and fear reaction seen in the delirious patient, especially at night).
- 11. Recovery stage danger (as for example, the stuporously depressed patient who is coming out of his depression and may be ready to act out the suicide thoughts he was unable to act out previously).

The variety of conditions in which suicide can be a possibility serves to point up the importance of choosing which patients to refer, not so much on the basis of diagnostic categories, as on the basis of the intensity of underlying disturbance.

Techniques of Referral Patients will be handled differently depending upon the reason the physician has chosen to refer them to a psychiatrist. For example, where the physician feels that he himself would like to continue sole management of the patient, but would like some help from a psychiatrist in terms of techniques, this should be directly explained to the patient. One might use such an approach as "I myself feel that this is something I can handle, but a psychiatrist in his examination may be able to pick up certain things which could help me in treating you." It can be reassuring to certain patients

Levine, Maurice. Psychotherapy in Medical Practice. The MacMillan Company, New York, 1942. Chapter 6, Pp. 160-183.

to know that their physician is not "sending them away," but is merely seeking outside help in order that he may be of greater service to them. The situation becomes more complex in those cases when the patient is being referred for psychiatric treatment. The common pitfalls in referral can be avoided and the positive aspects stressed when the following concepts are kept in mind.

I. Avoiding Over-Examination. Physicians have long since learned that the patient who is told something like, "We'll do every test possible, then if we don't find anything physical, we'll see what a psychiatrist has to say," raises many doubts in the referred patient's mind. A more positive approach based on the lines of "I would like you to see a psychiatrist not simply because we have not been able to find anything physical, but because there are certain definite signs and symptoms which suggest that your difficulty could be benefited with attention to your emotional status" can lead to a much more acceptable attitude on the part of the patient and give him less the feeling that his referral is "a last resort" or "the end of the line."

II. Not Transmitting Pre-determined Ideas. The physician's telling the patient that he knows exactly what the trouble it, and what treatment will be carried out by the psychiatrist, can have a two-fold disadvantage. First, it can raise in the patient's mind the question, "If he already knows all this, why am I being referred?" Second, it may create a situation in which if the psychiatrist, on the basis of his examination, arrives at a different conclusion, the patient may feel caught by the conflicting opinions and conflicting loyalties in

a way which may further complicate his emotional disturbance. The way can be left open by the physician's making a mental note of what he feels is indicated, without transmitting this to the patient, other than to tell him that he would like another opinion or to have his opinion checked, without influencing either the patient or the psychiatrist. In this way the problem of differences of opinion is not brought to bear directly on the patient but can be worked out by the psychiatrist and the referring physician.

III. Fostering Acceptance. The way in which the patient is prepared for what he may expect from the psychiatrist may often make it easier for him to accept the referral. To make it clear to him that the psychiatrist may choose one of a variety of approaches as treatment of choice, that it may take greater or lesser amounts of time dependent upon the situation, the pathology, the approach, etc., helps to make the patient more comfortable in whatever treatment situation is then prescribed. The frequent temptation to either reassure the patient by greatly "overselling" what might be possible in psychiatric treatment, as for example, "Just a few visits to the psychiatrist and you'll be all fixed up" or underselling through such phraseology as "I'd like you to see a psychiatrist-I don't know that it will do any good, but let's give it a try," can greatly interfere with what benefits might realistically be available.

IV. Avoiding the Either/Or Concept. Many patients resent the implication that an illness may be "emotional rather than physical." In more cases than not both of course contribute to the picture. It is good to get across to the patient that a referral for psychiatric treatment

is not a matter of writing off the physical aspects of his illness, but that it may at that particular time represent the best possible approach to his illness. A useful simile may be that of the house with the front and back door, with one of the doors representing a psychiatric approach, the other a physical approach to an illness. If one of the doors can be more easily opened than the other, which might for some reason be stuck, then certainly the more accessible door is the one to be chosen. In this way, if the patient has an illness which can be relieved more readily by eliminating contributing emotional factors, then certainly this is the treatment of choice, even though it does not gainsay the fact that he may have physical symptoms. This can help to undercut the objections of many patients that the doctor in his referral is implying that their illnesses, especially if they have physical manifestations, are 'in their heads."

V. Not Categorizing as Real or Imaginary, Many patients, upon hearing of their being referred for psychiatric treatment, especially in situations where the underlying emotional illness may be manifested by certain physical symptoms, feel resentment on the basis that they are being accused that their pains or discomforts are imaginary. It is important to get across to the patient the fact that this is not the case, that pain is pain and discomfort is discomfort no matter what the underlying cause, and that these manifestations can be just as real and just as uncomfortable, even though the origin may lie in an underlying emotional disturbance. In this area it can also be worthwhile for the physician to demonstrate to the patient with diagrams, if needed, how

emotional reactions can influence somatic or bodily changes. For example, the analogy of the sweating, palpitation and dryness of the mouth that one experiences in an external fear situation such as a close scrape with an automobile, where it exists in a patient without any known external precipitant, can be pointed out to him as being connected with certain internal fears of which he may be unaware of at the moment.

VI. Explaining the Unconscious. Perhaps one of the most important positive ways of referring a patient to a psychiatrist is accomplished when the physician has good self-respect for what he is doing, and thereby gets across to the patient that this is what he would want for himself were the roles reversed. He can indicate to the patient that the referral is being made only with helpfulness in mind; that it is not an act of rejection or hostility. He can also point out to the patient that most people have emotional conflicts, that modern psychiatrists are seeing many individuals who are sane but who need some help with their emotional problems. He can also indicate the strength in a patient's realizing he needs help with his emotions and that this admission is by no means a sign of weakness. He can also help to make the patient aware that there are within all of us certain underlying, perhaps even unconscious fears, anxieties, and conflicts, of which we may be totally unaware and which may manifest themselves on the surface only through certain symptoms that they may produce.

VII. Joint Management. In addition to these patients in whom treatment is predominantly medical or psychiatric, there are a considerable number of individuals in whom the treatment of choice is a joint management by the physician or surgical specialist on the one hand, and the psychiatrist on the other. For example, appropriate handling of the asthmatic may consist in the patient being helped, not only in regard to his physical reactions to pollen or other agents, but also in regard to the conflicting emotions running along concurrently with the physical reactions. Such a patient often does best when he follows a prescribed course of treatment by his family physician or allergist and, at the same time, is receiving psychotherapy.

The above idea of joint management not only proves fruitful in a good many psychosomatic conditions, (such as peptic ulcer, hypertension, hyperthyroidism, some skin disorders, arthritis and so forth), but also can apply to a good many physical conditions in which there is a significant emotional element and which have been referred to by some as somato-psychological conditions.

Summary

The whole field of medical practice can be broken down into those cate-

gories where the most desirable therapeutic approach would consist of (a) purely physical methods, (b) purely psychiatric methods, and (c) joint management by physician and psychiatrist. The matter of referrals to a psychiatrist was handled first from the standpoint of whom not to refer, including in this category individuals with chronic fixed psychiatric conditions; second, precariously balanced potentially psychotic patients; third, those with superficial emotional problems; and fourth, patients who fit into the group which the physician is quite adept at handling. "Whom to refer" was dealt with from the standpoint of patients referred for diagnostic clarification, for help in joint management, and for specialized psychiatric treatment with emphasis upon intensity of disturbance rather than diagnostic category. Some comments about suicide were included. The remainder of the paper was then devoted to a discussion of techniques of referral of patients to a psychiatrist, including both the positive aspects and the pitfalls to be avoided. 200 Fidelity Bldg.



at "Coroner's Corner" Page 41a

Read the stories Doctors write of their unusual experience as coroners and medical examiners.

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MEDICAL TIMES

Management of Congestive Heart Failure

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The pathophysiological changes which lead to, and occur during congestive heart failure are not fully understood. Regardless of whether one accepts the forward or backward failure hypotheses, it is obvious, as Cournand1 has stated that the initial cause of failure resides within the heart, and that a fall in cardiac output, and a rise in the filling pressure of the failing ventricle are the main causes of decompensation. The electrolyte disturbances, attributed to adrenal and renal changes are secondary to the increasing inability of the heart to perform the work required of it. Although the mechanisms involved are not fully known, the clinician by his judgement and adequate use of certain drugs available is able to treat, and at times cure, this end result of many types of heart disease.

The recognition of the cause of heart failure is the initial step in therapy. This is particularly true today, for certain types of heart failure can be greatly ameliorated, and at times clinically cured through the judicious use of cardiac surgery. Most prominent in this group are those patients with severe failure on the basis of rheumatic mitral stenosis. The recognition of congenital lesions in adults which have finally led to failure is quite necessary, although these are not seen in great numbers in private practice. Finally the recognition of chronic constrictive pericarditis as an etiologic factor may result in great improvement through surgery.²

There are certain other diseases. which, originally extrinsic to the cardiovascular system, lead to its eventual involvement. Most common of these thyrotoxicosis: severe anemias, particularly in the elderly; and beriberi heart disease seen most commonly in chronic alcoholic patients. Physicians practising in large Metropolitan centers should be aware of the possibility, in patients of Carribean orgin, of Bilharzial Cor Pulmonale, an acute form of right heart failure due to obstruction of the smaller pulmonary arteries by ova of Schistosoma Mansoni.3 Heart disease resulting from illnesses such as these may be corrected by the instigation of appropriate therapy. Apart from these more exotic and unusual types of heart failure the great majority of edematous patients suffer from rheumatic, arteriosclerotic, or hypertensive heart disease. Any one of these may result in either left or right heart failure depending upon the valves and ventricle functioning abnormally.

Management of the Acute Episode Left ventricular failure, characterized by cough, dyspnoea, orthopnoea, nocturnal dyspnoea, and in its severest form pulmonary edema, in an easily recognized entity. Many patients give adequate histories of gradually increasing dyspnoea on exertion and of increasingly frequent nocturnal dyspnoea. Such patients present no great problem and they may be handled in much the same manner as sufferers from right sided failure.

The patient with severe acute pulmonary edema presents a grave cardiac emergency. Dyspneic, orthopneic, expectorating frothy sputum which is sometimes blood tinged, they are in imminent danger of death. My procedure in left sided heart failure is to give immediately an adequate injection of morphine sulfate. This is followed by .5 gms. of aminophyllin in twenty cc. of water administered intravenously and slowly. Oxygen is given to the patient, usually by tent, as soon as possible. Positive pressure masks are of questionable value and are usually uncomfortable. Rotating tourniquets on three extremities are at times used but their value has been somewhat overrated. Two cc. of mercuhydrin are administered intramuscularly. Usually these measures will afford prompt relief of edema. Should they fail, two other procedures

remain. The first of these is rapid digitalization by the intravenous route. At present there are several digitalis preparations which will act quickly and effectively. Digoxin intravenously in 1.0 to 1.5 mgm, dosage is an excellent drug for initial rapid digitalization although its use as a maintenance agent is less satisfactory. More recently I have employed ectyldigitoxin (Cedilanid - D). The initial dose has been .8 mgms. followed in one to two hours by second dose of 4 to .8 mgms. Older preparations such as Ouabain .5 mgm I.V. are likewise effective. Naturally these preparations are also quite toxic and at times premature ventricular contractions or more serious arrythmias may result. Nevertheless they have a definite place in the treatment of left sided cardiac embarrassment. A second, and often invaluable procedure is the use of phlebotomy with the fairly rapid withdrawal of at least 500 cc. of blood initially. Phlebotomy should not be performed if the systolic blood pressure is below 120 mm. Hg.

The presence of hypotension in a patient with pulmonary edema should arouse the suspicion of acute myocardial infarction. For this reason it is advisable to obtain an electrocardiogram in such patients. Unfortunately this is the most difficult group to treat, and carries the higest immediate mortality from pulmonary edema. They should certainly receive morphine, aminophyllin, a mercurial diuretic, and if necessary digitalis. However, in such patients the use of norepinephrine (Levophed®) by the intravenous route offers more hope for their recovery than methods aimed at reduction of the circulating blood volume. Should the therapy of the acute episode of left ventricular failure prove

successful, as it will in most instances, the long term management of these patients must be considered. This will be discussed later.

Right-sided, congestive heart failure rarely occurs as an emergency. Due to the larger capacity and distensibility of the systemic venous bed, fluid pools peripherally in the extremities, back, abdomen, liver, and pleural spaces. Digitalization may be accomplished more leisurely and with greater safety. There are so many oral preparations available today, all potent and standardized, that it seems unnecessary to enumerate them. Digitalis whole leaf remains an effective, safe preparation, and it is hard to find a really adequate reason for its decline in popularity. Digoxin, although effective for rapid digitalization has been less satisfactory for maintenance, probably due to its rapid excretion. As a result the author rarely uses it for such purposes. One of the more recent is acetyldigitoxin, mentioned earlier in this article. However, according to a recent report4 this preparation possesses no great advantages over the earlier glycoside, digitoxin. Initially, the digitalizing dose of the whole leaf preparation will range from 1.2 to 2.0 gms. with a maintenance dosage of usually .1 gms. daily. The digitalizing and maintenance doses of other preparations are given by the manufacturers. It is necessary to remember that the maintenance dose may vary from time to time and that occasionally a well digitalized patient will escape from the effects of the drug at times. Thus frequent determinations of apical rates are necessary as a guide to adequate digitalis therapy.

The second great aid in the management of right sided heart failure and the one which relieves edema most rapidly

is the frequent parenteral use of mercurial diuretics. During the initial stages of right heart failure these should be given every other day until the patient is edema free and a stable weight has been obtained. Meralluride (Mercuhydrin®) is an effective and relatively painless injectable preparation. It is not toxic and allergic reactions to it are uncommon. Many patients tolerate subcutaneous injections without discomfort. Because of this, and the fact that it is stable, it is preferred to the sulfhydral containing mercurial preparation, mercaptomerin (thiomerin sodium).

Maintenance Therapy Maintenance of the cardiac patient in an edema free state, whether pulmonary or peripheral is as important as initial therapy. Although some patients with congestive failure will recover to the degree that they no longer require injectable mercurials, others will not. Accordingly both in left and right ventricular failure it is our practice to give injections at regular intervals. They are administered often enough to prevent recurrences of left ventricular failure and the accumulation of edema in right ventricular failure. Long continued use of these preparations is not toxic to the kidney. Many of my patients have received mercurial injections weekly, and sometimes twice weekly for periods varying from five to ten years and there has been no evidence that this has resulted in renal functional impairment.

In addition to these two important measures, adequate digitalization and vigorous use of mercurial diuretics, there are several ancillary methods of therapy which at times are helpful. Surgery will often relieve severe failure resulting from mitral stenosis. However,

Harvey has stated that pulmonary congestion in this disease may result from left ventricular failure rather than mechanical block alone. Since mitral value surgery still carries a considerable case fatality rate, and the tendency towards rheumatic reactivation is not eliminated, the author has become more conservative in recommending valvulotomy for this disease. Patients who recompensate easily and require well spaced injections of mercurial diuretics, or none at all are now treated medically. Soloff and Zatuchni6 have recently published a critique of the surgical treatment of mitral stenosis which would tend to support the plea for more active medical therapy before the referral for surgery is made.

Other Aids in Treatment Sodium restriction has become in the past years a strongly emphasized measure in the treatment of heart failure. Kay' has recently stated that it is consistently effective in therapy. In the author's hands it has not been. The author8 has previously warned that severe sodium chloride restriction, especially when combined with mercurial diuretics, may seriously complicate the treament of heart failure and endanger the life of the patient. In 1949 Schroeder⁹ described the low salt syndrome associated with renal failure. Soloff and Zatuchni¹⁰ reported a syndrome of salt depletion in the same year due to the combined use of mercurial diuretics and sodium chloride restriction.

Unfortunately, dietary restriction of salt is the responsibility of the patient. The latter at times finds the regime both troublesome and distasteful and thus is likely to violate it. The use of mercurial diuretics is safe and the effects in a patient are usually predictable. Therefore our procedure is to continue a

patient on a salt free diet only if it definitely aids in the prevention of fluid accumulation and aids in the reduction in frequency of the mercurial diuretics. If the dietary treatment affords no concrete evidence of improvement, it is discontinued. This avoids the low salt syndrome and the severe renal changes associated with it.

In our experience oral diuretics have been of limited value, Diamox,[®] the carbonic anhydrase inhibitor, has been of little assistance in the relief of edema in congestive failure. This has likewise been the experience of Helman and his group.¹¹ Oral mercurial diuretics, unlike their parenteral counterparts are relatively ineffective. Since none of these compounds is overly toxic, they could be used in patients to see if they aid in management of the fluid problem. If not, there is little advantage in continued use.

Southey tubes experienced a brief renaissance rather recently. The author has used them in seven patients. Although at times edema of the lower extremities was temporarily relieved, in each patient at least one infection developed at a puncture site. In one patient this led to a serious cellulitis of the leg. As a result of this their use was discontinued.

Thoracentesis is a very valuable procedure and should never be delayed when serious failure is present. Frequently the chest film is deceiving and more fluid is obtained than would appear present from the roentgen film. Patients with right sided heart failure due to pulmonary pathology, the cor pulmonale group, should receive prompt and effective treatment of respiratory infections. Since some of these people decompensate only with infection an attempt may be made to prevent such episodes with the use of prophylactic penicillin.

Refractory Heart Failure Refractory congestive failure reminds one of an actor, who once brought on stage refuses to make his exit. The causes of this condition are numerous. It may be iatrogenic, resulting from injudicious use of diuretics and salt restriction. It may represent renal failure, either temporary or permanent. One of the most common and often overlooked cause of refractory right sided failure is that due to multiple small, pulmonary emboli.

Most often these originate in the venous system of the legs, as a result of varying degrees of thrombophlebitis. This syndrome is more likely to be found in those patients who have a rather long history of chronic right sided failure, whose legs have been for some time edematous, and those who have varicosities. A positive Homan's sign, calf tenderness, and tenderness over the femoral triangle are helpful hints. Inequalities in the size of the lower extremities should lead the clinician to suspect thrombophlebitis in the larger leg. Any pulmonary infiltrates in the chest film, whether typical in contour or not should arouse the suspicion of pulmonary infarction. In the presence of such a complication, anticoagulants should be used and ligation of the involved superficial femoral vein, or ligation of the inferior vena cava must be considered.

A somewhat unusual cause of intractable failure is primary amyloidosis which frequently involves the heart. Although once considered a rarity, Bero¹² has stated that it is now being described more frequently. The condition should be suspected when a patient develops congestive failure without a prior history of heart disease or adequate evidence of the more usual types of cardiac in-

volvement. In addition, low voltage of the QRS complexes is of some help. Once suspected, biopsy of the tongue, gums, and sometimes the liver may provide confirmation. At times, the Congo Red test is positive in the primary type of amyloid deposition.

Renal failure often plays a large, if not principal part in the final episode. Lastly the physician must remember that time does run out for the cardiac patient and that this condition may represent final, irreparable weakness of the myocardium.

When the flame spectrophtometer appeared on the clinical scene, this author and others attempted to use it as a guide to fluid and electrolyte replacement. The instrument has not been as helpful as at first hoped. Initial electrolyte determinations are obtained, and if these show no marked deviation from normal, further determinations are dispensed with. Should a marked depression of serum sodium be found, that is below 125 m.e.g. per liter, 3% hypertonic saline in amounts of two hundred to three hundred cubic centimeters intravenously may be given. It is not uniformly effective. If the serum chloride is depressed and sodium values normal, ammonium chloride, orally four to six grams daily is given.

If the concentrations of these two ions are not disturbed, our custom is to permit the patient to regulate his own fluid and salt intake. After three to four days, two cc. of a mercurial diuretic are given. If this is ineffective, ammonium chloride and Diamox may be added to the regime for a few more days and the diuretic again repeated. If pulmonary edema or localized fluid accumulations are found, these are treated in the manner already outlined.

The author has used cortisone in dosage of 300 mgms, daily in four patients. Two responded favorably and two died. I feel its use is worthwhile when all else has failed for two reasons. First it may have some unknown effect upon electrolyte balance. Secondly, it may alleviate some renal disturbance. These are vague hypotheses, however, with little

concrete data to support them.

Apart from the above, little can be done for these unfortunate patients. It is our impression also that patients with severe renal insufficiency, specifically those with B.U.N. determinations of more than one hundred mgms. per hundred cubic centimenters rarely recover from severe heart failure.

Discussion and Summary

Many physicians and patients feel that once cardiac failure has appeared it will remain with the patient until life's end, and that it represents a chronic steadily downward illness. This is not so. Patients who have had a recent myocardial infarction may show signs of failure for some months and then regain compensation for many years. One of the author's patients is now seventy-four years old. He suffered a severe infarction at the age of 68 and required digitalis and mercurial diuretics for several months afterwards. He is now seen at three to six month intervals for routine physical examinations. A woman who is now seventy-eight and has had hypertension for several years, developed repeated episodes of left ventricular failure following the death of her husband four years ago. At first she required digitalis and weekly injections of mercurial diuretics. For the past year she has required only digitalis. Thus improvement can occur and the patient should be given hope in this.

This article has been based upon the author's personal experience in the management of congestive failure. In general it follows accepted lines. I did feel it necessary to attempt to place sodium restriction in what I regard as its proper place, namely a supportive measure to digitalis and parenteral diuretics. The preaching of sodium restriction in the treatment of cardiac patients has assumed almost the role of an unquestioned dogma. Although at times helpful, often it is not, and it may lead to unfortunate difficulties. Therefore it should be used with care.

It is felt that if the measures recommended in this article are followed in regard to diagnosis and therapy, many cardiac patients may lead long, productive, and comfortable lives, and not feel they stand in imminent danger of disability or death. Heart failure is often more analagous to a chronic illness, where remissions frequently occur, rather than to a steadily malignant disease where a steep decline is inevitable.

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320 Hawley Avenue

The Eradication of Brucellosis

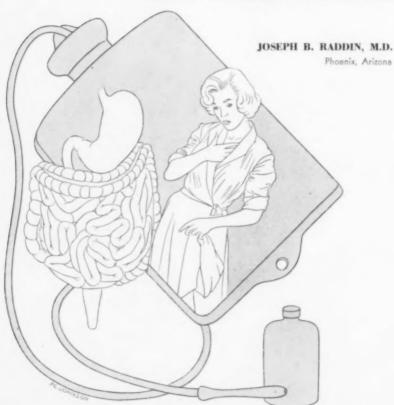
Since 1934, a co-operative State-Federal program for the control and eradication of brucellosis has been under way. In 1935, more than a third of the herds which were blood-tested were reactors, while in 1957 the percentage of reactors had dropped to roughly ten percent. Under this program, if the degree of animal and herd infection does not exceed one percent and five percent respectively, the county or state may be designated a Modified Certified Brucellosis-Free Area. By July 1, 1957, 735 counties had achieved this status, including seven complete states. Double the number of states should reach this status by July 1, 1958, and if the present program is maintained, it can be hoped that the incidence of bovine brucellosis in this country will be reduced to 1% or less by 1960.

"Brucellosis, Present and Future": C. K. Merigle. U.S. Department of Agriculture, Conference on Animal Disease and Human Health, N. Y. Acad. of Sciences, Sept. 11-13, 1957. Constipation, a common complaint of women, is a symptom of many organic disorders and illnesses and should be dealt with as such, and not dismissed with a prescription for a laxative. A thorough physical examination usually reveals the cause of constipation and eliminates the guess and the laxatives from treatment. When the organic dysfunction or disorder causing constipation has been diagnosed, curative

medication or surgery can be instituted with confidence.

Many gynecological disorders and hormone imbalances are accompanied by constipation. Biliary tract, colon, and ano-rectal diseases commonly cause constipation. For these, and many other reasons, in addition to a long and detailed history, a complete physical examination should include, as a minimum, a microscopic examination of a

The Clinical Problem of



catheterized urine specimen: a careful speculum and bimanual vaginal inspection: palpation of the abdomen for soreness of the liver, gall-bladder, or colon (not appendix) and a proctoscopic examination of the rectum.

Premenstrual edema and its attendant abdominal 'bloating' is frequently described as constipation. Menstrual irregularities due indirectly to chronic hepatitis are known, because metabol-

there are women who have a bowel movement only every third or fourth day yet are not constipated. They are perfectly normal, comfortable healthy: there is nothing wrong with their intestinal tract or organ systems and they do not need medication. Their food intake is small, or their intestinal digestion is so unusually efficient that comparatively little residue remains to be expelled. When enough fecal matter

accumulates in

the large intestine to create a natural desire for a bowel movement, they

promptly heed the summons. It may require an interval of several days before sufficient fecal matter again accumulates to induce another urge. There is no reason to prescribe bulk laxatives or fecal 'conditioners' for such women except as psychotherapy to counteract laxative advertisements.

On the other hand, there are women who have a daily bowel movement but who actually are constipated: their large intestine is filled with fecal matter only a part of which is expelled daily. The amount remaining in the colon after the daily stool continues to fill the entire colon. Fecal impaction is not present because the material moves forward daily without hindrance. Mild hypothyroidism is often associated with this condition.

There are women who believe, although incorrectly, that they are constipated when they fail to have a daily bowel movement. Skipping a day or two is not necessarily constipation, nor is it an indication for a laxative. A laxative or an enema ordinarily empties

the Constipated Woman

ism of the steroid hormones is frequently disrupted by liver disease. Pelvic distress labeled 'ovary' pain, but actually due to endocervicitis with its attendant pelvic parametritis is regularly attended with a complaint of constipation. When searching for the cause of constination, vaginitis and vulvitis has been discovered to be due to a direct extension of the infestation from an amebic colitis, to the vagina and pelvic organs. Gassy abdominal cramps, distension, and constipation are frequently the result of liver and gall-bladder disease. Women who have had children bring to their doctor the problem of indigestion and constipation due to internal hemorrhoids more frequently than do those who have not been a mother. They often state, "I have taken one brand of laxative until it doesn't work any longer, then I change to another".

Definition of Constipation Constipation is present when bowel movements are infrequent or difficult,

As Alvarez wrote many years ago,

the colon so completely that two or three days usually elapse before sufficient material again accumulates in the colon to create a natural urge to stool. The bulky residue from a meal does not normally reach the rectum in less than two or three days. Repeating a laxative every day, or every two days, empties the small as well as the large intestine but it also prevents resumption of normal digestive and physiological processes and timing of the natural urge to stool. Discontinuing the laxative for several days to determine the present status of the peristaltic ability of the intestinal tract is an important preliminary to diagnostic procedures.

Other women state they are constipated when actually they experience some difficulty in expelling a formed stool. A formed stool is not a 'constipated' stool, nor is there anything abnormal about a formed stool. A firm mass of fecal matter requires somewhat more conscious effort or straining to expel than does a soft or watery stool. Ano-rectal trouble, anal fissure, or internal hemorrhoids, is the common cause of difficulty in passing a formed stool. This type of constipation can be cured by removing the rectal trouble. Repeatedly inducing soft or watery bowel movements with laxatives, enemas or suppositories, while effective in preventing most or all of the difficulty in expelling the stool, does not cure the real cause of the disorder. Cancer of the colon is a fairly common cause of constipation in elderly women who often have taken a daily laxative for years. A liquid stool may be able to pass an obstruction which a formed stool cannot pass.

Causes of Constipation Much has been written about the importance of

regularity of bowel movements. Some women expect and usually do have a movement at a regular time each day. Others have no recollection when they last had a movement. Many things influence the time and frequency of defecation. Regular time of meals, regular amount of physical exercise, and regular living habits contribute to the likelihood of a regular time for a daily bowel movement. Breaks in the daily routine such as a long automobile trip. missing a meal or eating at irregular hours, lack of exercise, and unwise indulgence in unusual foods and drink. all contribute to irregularity. In itself, breaks in regularity due to such factors can be dismissed as of no importance. It is more important to obey promptly the natural urge when it is felt than to be concerned about 'regularity'.

Ano-Rectal Pathology Hemorrhoids are a common cause of constipation in women. Mothers are much more likely to complain of constipation for two reasons. First, pregnancy always causes distension of the veins of the anus and rectum which are the hemorrhoidal veins. This condition may be only temporary and subside following delivery. Secondly, more often than not, there is some permanent enlargement of these hemorrhoidal veins subsequent to delivery of the baby which then become internal or external hemorrhoids or a combination of both. They may be compared to varicose veins of the legs.

Internal Hemorrhoids Internal hemorrhoids, because they constitute a partial obstruction to the easy passage of a formed stool, are a common cause of difficulty in expelling a bowel movement. A woman is seldom aware of internal hemorrhoids except when con-

stipation or painless bleeding with a bowel movement occurs or when a prolapse is felt. They can be diagnosed accurately only by proctoscopic examination. Uncomplicated internal hemorrhoids do not cause pain during a bowel movement. Painless bleeding during the passage of a formed stool is believed due to food particles eroding the surface of the distended vein. Neither 'hard' nor watery movements cause hemorrhoids or constipation. Internal hemorrhoids do, however, decrease the size of the ano-rectal lumen through which the fecal matter must pass. The formed stool, by pushing blood in the hemorrhoidal vein ahead of it, distends the lower segment of the vein. This, in turn, causes more hindrance to the easy expulsion of a formed stool and permits erosion of the distended vein. A soft or watery stool does neither.

External Hemorrhoids External hemorrhoids are painful because they are a localized phlebitis of the external hemorrhoidal vein with a blood clot in the vein or veins involved. The surrounding anal tissues become edematous. The anal sphincter muscles normally relax when a natural urge to stool is felt. This sphincter relaxation fails to occur when any painful lesion such as an external thrombosed hemorrhoid or anal fissure is present. When a normal, formed stool must be forced through a tight and edematous anal sphincter, more pain is felt and increased effort is demanded. This is not constipation-it is rectal trouble.

Blood is generally not seen when external hemorrhoids alone are present or when internal hemorrhoids are of small to moderate size. A soft or liquid stool does not stretch the tight anal sphincter much even when an acute external hemorrhoid or anal fissure is present, and can be expelled with comparatively little distress. These facts contribute to the mistaken belief that constipation or a normal, formed stool causes hemorrhoids or anal fissure: that taking laxatives will prevent hemorrhoids: that a soft diet, mineral oil, or developing 'regularity' of stool is adequate therapy: none of these statements are factual. The cause of the phlebitis of the hemorrhoidal vein is unknown; nor is the etiology of the varicosity of the internal hemorrhoidal veins known.

Anal Fissure Anal fissure is another common anal condition which is painful and usually bleeds a little during the passage of a stool. A fissure is not a hemorrhoid, although it is commonly associated with what is called an external pile. A fissure may exist alone or be present with either type of hemorrhoids. It is a painful ulcer of the anus at the junction of the skin and internal mucous membrane. It resembles in appearance the split skin over finger knuckles when hands are badly chapped by cold.

To summarize thus far:-

A so-called 'constipated' stool, actually only a normal, formed mass of fecal matter, does NOT cause internal or external hemorrhoids or anal fissure: it does aggravate the pain and bleeding associated with a bowel movement when they are present.

Hemorrhoids and anal fissure are responsible for this type of constipation, not the consistency of the stool. A laxative by inducing a liquid stool simply makes a bowel movement easier and more comfortable to expel when anorectal pathology is present.

Liver and Gallbladder Disease Pregnancy always increases the burden

which the liver naturally performs. Liver and gall-bladder disorders regularly accompany pregnancy, often account for the constipation annoving during pregnancy, and may persist many years following delivery unless treated during the pregnancy or subsequently. Biliary tract disorders which include the liver, gall-bladder and pancreas, cause a gassy type of indigestion, abdominal distension and cramps, and constipation, because less bile and pancreatic juice is emptied into the intestinal tract and in a quantity insufficient to assist digestion. Indigestion, or lack of proper digestion of food, is inevitable when insufficient bile and pancreatic juice are available to properly prepare food for digestion and assimilation by the body. Bile is the natural body laxative. Bile salt and bile acid medication are probably the only 'safe' laxatives. They are the only medications known to cure indigestion and constipation due to liver and gall-bladder dysfunction. Mothers are commonly victims of chronic biliary tract indigestion which predisposes to gall-stone formation, Constipation is a symptom accompanying this disorder. However, constipation does not cause liver or gall-bladder disease.

Less Common Causes of Constipation Constipation can be a complaint accompanying hypothyroidism, amebic colitis, food allergy, lack of balanced diet, poor living habits, neglect of physical exercise, and many other less common causes.

Constipated women should always be carefully examined for hemorrhoids and biliary tract disease. When no abnormality is found, diagnostic efforts should then be directed to detection of the less common causes of the complaint. In elderly women it may be due to any of these factors or to a sedentary life and poor muscle tone which includes the muscles of the intestinal tract as well as arm, leg, and other muscles.

Hypothyroidism Hypothyroidism is commonly overlooked in girls and young women as a cause of constipation. After the menopause thyroid activity naturally declines and should be considered as a possible cause of constipation.

Amebic Colitis In the Mississippi river basin, the great lakes region and southwestern United States, and increasingly throughout the nation, infestation of the colon by the parasite Endameba histolytica is becoming a more commonly recognized cause of chronic, vague intestinal tract distress and constipation, usually called indigestion, nervous or functional, because it cannot be diagnosed by conventional laboratory or x-ray procedures. It is regularly labeled as a type of colitis, appendicitis, gastritis or peptic ulcer. Constipation much more frequently accompanies chronic amebic colitis than does diarrhea. Even when an acute amebic dysentery is present, the attacks are apt to be of short duration and their significance ignored. It is a disease difficult to diagnose because of lack of specific laboratory tests other than stool examination, which is seldom positive in known cases when examined by expert technicians. There is no complementfixation or specific biological test yet available. Unless the unembalmed body is examined within three hours of death. anatomical lesions are seldom detected at autopsy. Unless suspected and adequately treated with specific medications, amebic colitis can mimic any intestinal tract disorder and cause lifelong abdominal distress and constipa-

Infestation of the cecum is the first lesion of amebic colitis. From the cecum the parasite spreads to the rest of the colon and rectum. Next to become infested is the liver causing amebic hepatitis. Amebiasis is said to be present when the parasite spreads from the colon and liver to invade the diaphragm, lungs, and any other body organ including the brain and pelvic organs.

Amebic vaginitis is a common complication probably by direct extension from the rectum. It may flare-up intermittently or be quiescent for unknown reasons. The diagnosis of Amebic hepatitis is made surprisingly often when the clinician is suspicious. Laboratory examinations of liver function are notoriously futile as aids for diagnosis of this disease.

There are few drugs which kill ameba in the intestinal tract and fewer yet which are of value when amebic hepatitis and amebiasis are present, yet these amebicidal drugs are the only hope for cure. Cure is not difficult when therapy is properly exhibited. Reinfection is the problem and demands intermittent therapy for control. Do not confuse acute amebic dysentery with amebic colitis, amebic hepatitis, or amebiasis.

Diet and Constipation Foods do NOT in themselves cause constipation or indigestion. The correct statement is that when certain foods do apparently cause digestive disturbances or constipation, search should be made for the biliary tract disorder, hypothyroidism, hemorrhoids, amebic colitis, food allergy, systemic disease, and in elderly women, the possibility of cancer of the colon. If the gastro-intestinal tract is functioning properly, foods will not

cause constipation or indigestion. Systemic diseases are often responsible for functional intestinal disorders and constipation. Diet restriction or prescription is seldom indicated. A diet which contains a wide variety of foods is the best presently known measure to insure good health—a well-balanced diet. It is the physician's task to return body health and intestinal digestion to normal thus enabling the woman to consume a balanced diet.

Treatment of Constipation The only treatment which will cure constipation is the removal of the cause in each individual. The correct diagnosis may be a common disorder or an obscure systemic disease rarely suspected.

Internal hemorrhoids, if not huge, can be cured by injection of sclerosing fluids. The procedure is not painful, eliminates the need for surgery, and no time is lost from work. Rectal suppositories never cure either internal or external hemorrhoids. They sometimes have some soothing value for internal hemorrhoids and anal fissure.

External hemorrhoids can be operated early. Simple incision of the vein and removal of the blood clot under local anesthesia is an office procedure which gives dramatic relief from acute pain. Recurrent attacks and massive involvement which has been neglected should be hospitalized and operated. Rarely there is never a recurrence following an acute attack. For acute or chronic biliary tract disorders, intravenous sodium dehydrocholate (Decholin) in 10 cc. doses of 20% intravenously repeated daily or alternate days gives the best and most prompt results. Bile salt and bile acid medication is prescribed to be continued for many months, along with other indicated measures, to increase the secretion and excretion of bile into the small intestine. Gall-stones should always alert the physicians to the possibility of a cholecystectomy.

Treatment of amebic colitis is effective now that a number of new drugs are available. Emetine and Carbarsone® remain the two most dependable. Camoform® has proved valuable. Recently Tritheon® has been evaluated. Increasing the dosage to tab. 11 or 111 t.i.d. depending on body weight, and continuing for 10 to 15 days periods, has been helpful in amebiasis and amebic vaginitis. The improvement in constipation is uniformly remarkable.

Reinfection being the great problem, Carbarsone, cap. i a.m. and p.m. daily for 10 days and repeated every two or three months appears to be adequate phophylaxis. I have never seen a skin rash or side-effect in several hundred patients to date.

Thyroid extract should be used when indicated to increase intestinal muscle tone and regulate bowel movements in young or older women. Results are unbelievable until observed.

Exercise within tolerated physical ability of the individual is to be recommended to stimulate bowel activity—exercise often seems to act as a laxative. Fresh fruits and vegetables, green leafy vegetables eaten raw or cooked, meat, fish, eggs, and cheese with a moderate amount of milk, which can be added to other foods, should be consumed daily to insure adequate nutrition and bowel function.

Some foods cause hives in a few individuals. Strawberries are a common offender. That person is then said to be "allergic" to strawberries. A few women will be annoyed by indigestion, constipation and intestinal cramps,

rather than hives, when allergic to a food. Since food allergy is not a frequent cause of gastro-intestinal distress and constipation, it can be overlooked as a cause. Avoidance of the offending food when known is the easiest treatment. Desensitization injections can be given when the offending foods are proved. Reliance should not be made on skin tests. Desensitization is valuable when the offending food is a common item of the diet such as wheat, beef or milk.

Laxatives should not be used to treat constipation. Cathartics, purgatives and the various types of salts are all laxatives and produce their effect by irritating the lining of the colon which increases the watery content of the feces. It should be obvious that when a colitis is present, any laxative will aggravate any existing inflammatory process.

'Bulk' laxatives are often consumed by patients without the advice of a physician. They accomplish nothing an intelligent selection of a balanced diet will fail to do. They sometimes cause bowel obstruction or fecal impaction in older people because of poor muscle tone which is unable to propel the material through the intestine.

The 'wetting agents' recently introduced to treat constipation cure nothing. Medication not directed at the cause of constipation is futile therapy and may mask real pathology.

Mineral oil is not recommended for constipation because it coats the food with a film of insoluble oil which prevents absorption of vitamins and interferes with digestion and body assimilation of some foods. It has several other undesirable features. Enemas, when properly administered, give prompt relief, are effective, harmless, and if not repeated regularly are often the method of choice for prompt but temporary relief from gassy intestinal distension and constipation. The convenient, disposable Phospho-Soda® enema is to be recommended.

Bile salts or bile acids are preferable to any other oral medication for temporary laxative effect. When continued for many months in a gradually reduced dosage, they cure constipation and gassy indigestion due to poor liver and gall-bladder function.

In my opinion, the most important advice concerning the value of 'regularity' is to promptly answer nature's call when felt and not postpone it. Forming a daily habit pattern may be suggested for healthy women who are unable, or unwilling, because of their particular occupation, to leave any time they desire to have a movement. Regularity might be assisted by rising half an hour earlier and eating a substantial breakfast leisurely. It certainly is not

an adequate substitute for painstaking diagnostic and therapeutic measures.

Conclusion

Several of the more common causes of constipation in women have been discussed. The wisdom of avoiding laxatives has been explained. Treatment of constipation to achieve cure must always depend on accurate diagnosis which suggests the remedy. Internal hemorrhoids and biliary tract dysfunction are two common causes of constipation in women.

It is every physician's obligation to his patient to diagnose the cause of constipation rather than prescribe any form of laxative. Constipation is often due to a systemic disorder or pathology which, if neglected, may have, eventually, fatal consequences.

More important than worry about 'regularity' is to obey nature's urge promptly when felt.

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- a. Most common type of double aortic arch—2, is the ant. segment of the aortic arch.
- b. Double aortic with—I, rare posterior segment of the aortic arch. (after Potts)

Ether Anesthesia

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Ether (di-ethyl ether) has been used for more than a century to produce anesthesia for millions of operations. It is an excellent anesthetic agent and although numerous newer agents have been introduced, it is still one of the best available. It has been administered many times by doctors and nurses who have had limited training in anesthesiology and in spite of this, the end results have been satisfactory. However, it is desirable to increase our knowledge about ether and its administration.

The purpose of this paper is to demonstrate clinically the potency of ether and to suggest a local analgesia technique which will produce a smooth ether induction.

Patients were anesthetized with ether for various operations. The depth of anesthesia was determined by electroencephalogram and correlated with clinical signs¹. Fronto-occipital needle-electrodes were inserted into the scalp 5 cm. apart, and an electroencephalogram was recorded on Grass Model III electroencephalograph. On the same strip of recording paper an electro-

cardiogram was simultaneously recorded.

After endotracheal intubation patients were brought to the analgesic stage.2 They were able to respond to spoken voice and the electrocencephalogram showed the analgesic pattern-a predominance of waves of 20-24 cycles per second. The size of pupils and blood pressure remained usually close to that observed preoperatively. With an increase in the depth of anesthesia due to the administration of ether, the electroencephalographic pattern showed slower activity and eventually reached the slow, 1½-2 cycles per second, pattern characteristic of deep anesthesia (3-4 plane, 3rd stage Guedell3). At that point the pupils were usually widely dilated, the respiration depressed and the blood pressure often had fallen markedly. The electroencephalographic and electrocardiographic records shown in Fig. 1 are from a patient who was brought from the very light stage of

From the Department of Anesthesiology, Memorial Center for Cancer and Allied Diseases.

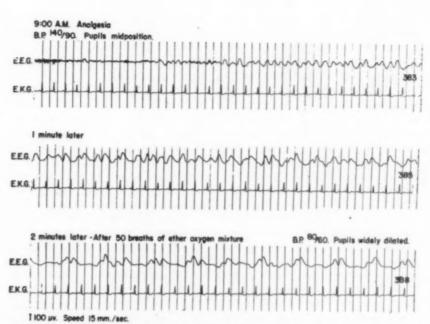


Fig. 1 Electroencephalographic and electrocardiographic records during various levels of ether anesthesia.

analgesia to a deep anesthesia within two minutes. At the end of this period the electroencephalogram showed slow waves 2 cycles per second; the pupils were widely dilated; and the systolic blood pressure was lowered by 60 mm. of Hg. This was achieved by 50 breaths of an ether oxygen mixture from a Heidbrink circle anesthesia machine with the ether vaporizer half open delivering approximately 5—7% ether vapor. During this time the electrocardiogram remained normal.

Experienced anesthesiologists know that ether is a very potent anesthetic agent and should be administered with great caution. Children and most elderly and debilitated patients respond very quickly to the administration of ether and can show signs of deep anesthesia within short period of time.

If the person who administers the ether fails to observe the rapid change in vital signs the patient can easily be overdosed and cardiac arrest will supervene. This unfortunate event has happened and will happen because many physicians think that ether is a very safe anesthetic agent and can be administered in great quantity. Whenever ether anesthesia is administered a drop in blood pressure should mean an overdose of anesthetic until proven otherwise and measures to lighten the anesthesia should be instituted immediately.

A smooth and rapid induction with ether requires skill and years of daily practice are necessary to master the technique. At times laryngo-spasm, coughing and breath holding may prolong and complicate an ether induction.

This is due to local irritation of the mucosa of the upper respiratory tract caused by the rapid increase in ether vapor concentration. Deeper planes of anesthesia will abolish these reflexes, but once established they prevent the inhalation of stronger ether vapor and thus, a vicious cycle is perpetuated delaying the induction. Usually after some struggling the anesthesia level is deepened enough to prevent further coughing, laryngo-spasm and breath holding, and permit the establishment of the desired level of surgical anesthesia. Topical analgesia to the larynx and trachea will render the nerve endings in the mucosa insensitive to the ether vapor and the induction will be smooth and rapid. A translaryngeal block will produce topical analgesia to the desired anatomical structures. The technique of this block is simple: the cricothyroid membrane which lies between the thyroid and cricoid cartilages of the larvnx is located and the skin area above it asseptically prepared. A 22 gauge 11/2 inch long

needle attached to a syringe containing 2—3 cc. of 5% cocaine or 5% Cyclaine® solution is introduced through the skin and cricothyroid membrane into the lumen of the larynx.

After aspiration of air to show that the needle has been placed correctly the contents of syringe are rapidly discharged and the needle quickly withdrawn. The patient will cough and spread the anesthetic solution into the trachea and larynx. In addition to this, the mouth and pharynx are sprayed with a nebulizer to assure topical analgesia above the glottis. This block is performed easily and in more than 15,000 applications at the Memorial Center no complications except occasional small subcutaneous hemorrhages at the site of injection have been encountered. The excellent topical analgesia provided by this block makes the ether induction a smooth and rapid procedure and the physician who administers the anesthesia will appreciate the assistance provided by this technique.

Summary

Clinically di-ethyl ether has been shown to be a potent anesthetic agent and electroencephalography has verified this observation. The technique of translaryngeal block has been described and its value in ether anesthesia discussed.

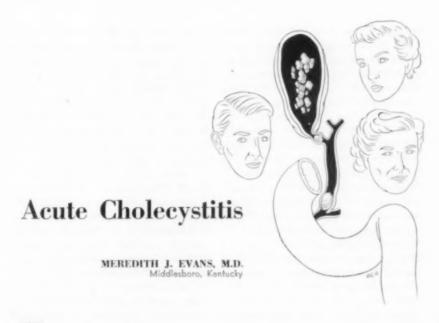
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W ith an increased life expectancy and higher living standards, there is an associated higher incidence of biliary tract disease. Acute inflammation usually occurs in a previously diseased gallbladder, particularly one which contains calculi. Calculus disease and consequently inflammmation are more common in the older age group. Also, it must be remembered that the complications of acute cholecystitis are severe in the aged. Fortunately, there is a trend toward early operation among many surgeons. This is in contrast to the viewpoint held two or three decades ago. This change of concept can be attributed to a better understanding of the pathogenesis of the disease, better anesthesia, the advent of antibiotics, a better understanding of fluid and electrolyte changes, availability of blood for correction of anemia and for blood replacement during operation, and to better trained surgeons.

Pathogenesis and Pathological Findings An obstruction in the biliary tract almost always precedes the acute inflammatory phase. Usually this obstruction is a stone which becomes impacted in the cystic duct; however, in non-calculus disease the obstruction may be in the lower end of the common duct as the result of stenosis or persistent spasm of the sphincter of Oddi. Obstruction of the cystic duct results in increased intra-cholecystic pressure. Inflammation and ulceration result from the irritation of the mucous membranes by calculi. Secondary bacterial invasion produces further inflammation with gangrene and local abscesses in some instances. The bacteria may be blood born, or they may gain entrance through the biliary tract itself or through the lymphatics.

Acute inflammation may occur as a result of influx of pancreatic juices into

the gallbladder. This apparently results from partial obstruction at the lower end of the common duct associated with a direct communication between the pancreatic and common ducts. This common communication exists in almost seventy per cent of all individuals.³

At operation, the gallbladder is usually distended, edematous, and its wall is very thick. There may be areas of gangrene and even small abscesses. Adhesions, both recent and old, are usually noted between the gallbladder and the surrounding organs, especially the greater omentum and the duodenum. Upon opening the gallbladder, one may find purulent material, bile, dark blood or mucous depending upon the stage and the severity of the inflammation. Calculi are usually present. The mucosal surface usually is covered with blood, adherent clots and pieces of fibrin. Microscopically, hemorrhage is common, and there is usually a purulent exudate beneath the mucosa.

Age and Sex Acute cholecystitis is predominantly a disease of the middle age or beyond, however it may be found at any age. It is approximately twice as common in females as in males.²

Signs and Symptoms As a rule, the symptoms and physical findings in acute cholecystitis are fairly typical, and the correct diagnosis should be made in well over eighty per cent of cases. The common symptoms are right upper abdominal pain, nausea and vomiting. The pain is usually sudden in onset and severe especially if the attack is initiated by the impaction of a stone in the cystic duct. It frequently radiates toward the upper thorax and neck because of the irritation of visceral afferent fibers accompanying the phrenic nerve. The physical findings are tenderness and rigidity

in the right upper abdomen. One is impressed by the frequent findings of a normal temperature at the original examination; however, the temperature usually becomes elevated to 100-102°F later. A tender mass may be palpable in the right upper quadrant, but this may be obscured by muscle spasm or it may be absent when there is a fibrosed and contracted gallbladder. Jaundice is an uncommon finding, but when present it usually indicates some complication such as obstruction from a common duct stone or ascending cholangitis.

Diagnosis It is difficult to correlate the rather moderate signs and symptoms with such a severe pathologic process as acute cholecystitis and its complications. As pointed out in a previous article, these complications may run quite high unless early operation is performed. Acute cholecystitis may be simulated by other acute abdominal conditions as is demonstrated by the following case:

W. A. R., a 41-year-old white male, was admitted to St. Vincent's Hospital April 13, 1956 complaining of right upper abdominal pain and vomiting of sudden onset. The pain was sharp, intermittent and radiated to the lumbar area and left upper quadrant of the abdomen. The past history was suggestive of biliary tract disease with an episode of jaundice eight years before.

Examination showed an acutely-ill patient with tenderness and guarding in the right upper quadrant. On admission the white blood count was 12,100 per cubic mm. with a normal distribution of cells. Serum amylase, lipase, icteric index, and cephalin cholestrol flocculation determinations were normal. A tentative diagnosis of acute cholecystitis was made, and conservative treatment begun. There was clinical im-

provement until the fourth day following admission when he complained of severe right upper quadrant pain, spiked a fever of 102°F, and showed signs of localized peritonitis. The icteric index became elevated and the alkaline phosphatase was 17.8 King-Armstrong units. The serum lipase was again reported as normal. An exploratory laparotomy was performed, and the gallbladder, liver and common duct were found to be normal. There was diffuse edema and inflammation of the pancreas. A cholecystostomy was performed, and the patient recovered although the first three post-operative days were very stormy.

Acute cholecystitis must be differentiated from acute appendicitis, perforated peptic ulcer, acute intestinalobstruction, coronary occlusion, pneumonitis, diverticulitis, etc. Certain laboratory tests will be of assistance in this differential diagnosis. The serum amylase is usually elevated in the first twenty-four hours of acute pancreatitis: but occasionally it will be elevated in acute cholecystitis also.2 X-ray studies of the abdomen and chest will be helpful in demonstrating unusual gas patterns and inflammatory lesions, Electrocardiography and enzymatic studies will help to rule out coronary occlusion with infarction. The white blood count is usually elevated to above 10,000 per cu. mm. When it is higher, it indicates the development of suppurative cholecystitis or other complicating infection.

Treatment Once the diagnosis of acute cholecystitis has been established, the surgeon must plan a definite course of therapy. Early operation should be performed unless there is a contraindication to surgery such as congestive heart failure, pneumonitis, coronary occlusion, or some other deterring situation. Fre-

quently, the patient is seen three to four days after the onset of symptoms. Many surgeons are of the opinion that operation should be performed within the first forty-eight to seventy-two hours from the onset. Lounsbury⁴ has pointed out that the rationale of such feeling lies in the fact that invasive infection begins at this time, but since the advent of antibiotics such infection can be controlled. In spite of the inflammatory process, it is usually easier and safer to dissect the gallbladder out of its bed at this stage than later when dense adhesions are formed and it has become distorted.

In preparing the patient for operation, careful attention must be paid to several aspects of the various problems which may be encountered. The renal, hepatic, pulmonary and cardiovascular systems must be carefully evaluated and an attempt made to correct any abnormality. Fluid and electrolyte imbalances may exist because of inadequate oral intake or excessive fluid loss through emesis, diarrhea or sweating. This abnormal blood chemistry and lowered blood volume should be corrected by parenteral use of whole blood and glucose solution containing the necessary electrolytes. Antibiotics should be given routinely, penicillin being the one of choice in most instances. A mixture of antibiotics should not be used, especially one containing streptomycin. This drug should be reserved for acid fast infections since gram negative organisms rapidly develop resistance to it As pointed out by Boyden, a failure of the process to subside indicates gangrene with impending rupture rather than failure of the antibiotic. Naso-gastric suction should be instituted and continued post operatively until signs of normal bowel function return, and patient tolerates fluid per os.

Either general anesthesia or spinal analgesia may be utilized, and a right rectus muscle or subcostal incision. The subcostal incision is preferable in obese patients and in those with a wide costal angle. This incision may require more time than a paramedian, but the exposure is better and post-operative herniations are uncommon. The gallbladder is routinely removed from above downward; usually a plane of dissection can be easily developed in the edematous tissues. Careful dissection should be performed at the junction of the cystic and common ducts. The cystic artery and duct should be identified, separately clamped, divided and ligated. The common duct should be explored when indicated. At times the condition of the patient may be extremely poor or the disease process so diffuse as to contraindicate prolonged anesthesia. In such cases, a cholecystostomy may be performed; however, an Estes operation may be more desirable since it eliminates a second operation. Lahey called attention to the disadvantage of cholecystostomy in that another episode of acute cholecystitis may supervene during the waiting period requiring repetition of the original procedure. Anyone unfamiliar with the anatomy and possible anomalies in the region of the portal triad should perform a cholecystostomy and allow the inflammation to subside. The operative region is routinely drained, and no attempt is made to close the gallbladder bed in the liver.

Case II: J. L., a 66-year-old white male was admitted to St. Vincent's Hospital January 4, 1957 with a history of right upper abdominal pain, nausea and emesis which had been present one week. The patient had been treated at home with antibiotics, sedatives and

antispasmotics. Examination showed a normal temperature. There was tenderness in the right upper quadrant but no palpable mass. The white blood count and differential were normal. Serum bilirubin determinations were normal. and the cephalin cholesterol flocculation was 3 in forty-eight hours. Because of severe right upper quadrant pain, nausea and abdominal tenderness, it was decided to do an exploratory laparotomy. At surgery, the gallbladder was enlarged, the surface was hemorrhagic, thickened and roughened. A two centimeters perforation communicated with an eight centimeters abcess in the greater omentum which was very adherent to the gallbladder wall, liver and duodenum. A second abscess four centimeters in diameter was found between Hartman's pouch and the right hepatic duct. The gallbladder was dissected out from above downward with great difficulty. The patient had an uneventful convalescence.

Comment Early cholecystectomy would have prevented the complications of perforation with abscess formation and decreased the morbidity in the case.

In most instances, it is advisable to use naso-gastric suction for twenty-four hours, and parenteral fluids should be given until the patient shows signs of returning normal bowel function. Antibiotics are usually indicated for five days after surgery, and should be continued until the temperature returns to normal. The drains may be removed on the third and fifth post-operative days, and the patient can be dismissed on the eighth post-operative day in many instances. The convalescence is usually an uneventful and very gratifying one. Follow-up management is the same as in other types of biliary tract surgery.

Conclusions

Acute cholecystitis is secondary to biliary tract obstruction in almost every instance. These obstructions are commonly produced by calculi, Good results are obtained by early surgery,

and complications are kept at a minimum.

For several years, there has been a trend towards early operation in acute cholecystitis by many surgeons.

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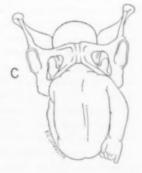
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DIFFICULT LABOR
DUE TO ABNORMALITIES
OF POSITION OF FETUS

- A. Prolapse of Arm and Elongation of Neck
- B. Birth of Anterior Shoulder and Buttocks
- C. Birth of Body







POST-BULBAR DUODENAL ULCER

JAMES F. CRENSHAW, M.D. Birmingham, Alabama

Post-bulbar duodenal ulceration, although less frequent than the common lesion of ulcer of the cap, is more prevalent than usually believed. The clinical incidence, however, would seem to be well below that of the necropsy figure of 9.6 percent. 1, 2, 3 Ulcerations beyond the cap are important because of their hemorrhagic tendency, their intractability to medical management. and their consideration in the differential diagnosis of duodenal tumor. In symptomatology, post-bulbar duodenal ulcers are similar to ulcerations involving the cap, but their tendency to hemorrhage is considerably greater. Because of this bleeding tendency, surgery is frequently performed. Several authoritative sources4, 5, 6 produce meager information on this subject.

Review of Literature The most recent articles involving post-bulbar duodenal ulceration come from foreign sources. 7, 8, 0, 10 An excellent review of the subject has recently been summarized by Swarts and Rice 11 who found from 1910 to 1951—112 clinical cases, and added 18 cases of their own. A review of necropsy figures shows an average

incidence of 9.6 percent with a range of 5 to 17 percent.^{1, 2, 3} In surgical cases of duodenal ulcer, the incidence ranges from 5 to 17%, according to Ball, Segal and Golden;¹² also this group estimates the incidence of ulcer beyond the cap from roentgenographic studies to be 1% to 5%. In cases showing hemorrhage, gross bleeding occurred in 60%.¹¹ Also in the reported cases surgery was performed in 58%.¹¹

Case Presentation A thirty year old white, male barber was seen in January, 1951, with chief complaint of a throbbing ache in the mid epigastrium of nine months duration. This pain was localized to the epigastrium never radiating into the back. The onset was insidious and its occurrence was intermittent without special reference to food

^{*} From the Seale Harris Clinic, Birmingham, Ala.

intake, although at times the stomach did feel better when empty. Beef and bacon were the chief aggravators of the discomfort. No positional changes or movements affected the pain. There had been no change in the character of the pain which might suggest extension or complications. Belching, and the passing of flatus occurred frequently. There was no nausea or vomiting, the appetite was good, and there had been a weight gain of five pounds in the past six months. No bleeding episodes were described. He was accustomed to smoking approximately thirty cigarettes daily and three cigars. He took an occasional

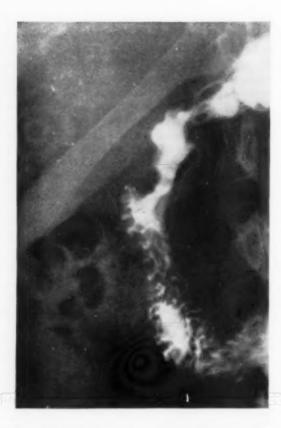
social drink. The bowels were regular and there had been no evidence of the passage of blood or mucus in the stool. In the physical examination obesity and slight epigastric tenderness were the only positive findings.

Roentgenologic studies of the digestive tract showed a filling defect in the second portion of the duodenum (see Figure). This lesion was thought to be either an ulcer or an adenoma, but it was thought malignancy should be ruled out. Accordingly, a surgical consultation was requested, and Dr. Claude Blackwell operated on the patient in March, 1951. Before operation, a survey of the



Fig. 1 Prominent filling defect in lateral aspect of second portion of duodenal loop.

Fig. 2 Healing after 3 months of strict medical management.



liver including a bromsulphalein test, alkaline phosphatase, icterus index and cephalin cholesterol flocculation was performed, and all were within normal limits. Also a pancreatic study was undertaken because of the location of the lesion.

The serum amylase was normal and the duodenal enzymes lipase, trypsin, and amylase were normal.

At operation a rather large indurated ulcer of the lateral aspect of the second portion of the duodenum was found. numerous adhesions were noted between the site of the ulcer and the adjacent tissue including the gall bladder. There was no evidence of tumor in the pancreas. The liver appeared normal as did the gall bladder and common bile duct. The stomach and the remainder of the duodenum were essentially normal. In view of certain technical difficulties, the surgeon did not deem it wise to perform a subtotal gastric resection.

Since operation the patient has been on strict medical therapy for the ulcer including a bland diet with between meal feedings, antispasmodics before eating and upon retiring, and antacids after and between meals. He has improved steadily. There has been no recurrence of pain since a few weeks after the surgery.

Discussion Although lesions beyond the duodenal cap are rather uncommon, it is well to bear this possibility in mind especially in recurrent hemorrhages of the upper gastro-intestinal tract, also in ulcers which do not respond to prolonged medical therapy. Hemorrhage in gastric ulcer occurs in about 24% and in duodenal ulcer 19%. There is nothing in the medical history which would differentiate a post-bulbar lesion from the usual ulceration of the cap, nor do we find in the physical examination any clue that would help us differentiate these points.

Roentgenological studies of the upper gastro-intestinal tract, when adequately performed exercising the proper positioning, will clearly localize the lesion. Naturally, such lesions must be kept in mind if their presence in the differential diagnosis is to be considered. From the information at hand, perforation and obstruction seldom occur in this area. It seems that in the second portion of the duodenal loop there is a special predilection for this type of ulceration. Involvement of the common bile duct in this process has been reported. Treatment from the medical standpoint is the same as that of a capulcer, i.e., bland diet, antispasmodic, and antacid.

Surgical intervention is indicated in (1) Recurrent hemorrhage whether chronic or acute (2) Medical intractability (3) Preoperative diagnosis of a possible duodenal tumor.

Summary and Conclusions

1. A discussion of post-bulbar duodenal ulceration is presented. Although it is relatively rare, its presence should be kept in mind especially in those cases presenting hemorrhagic and medical intractability problems. The diagnosis is made by roentgenologic studies. The usual treatment is surgery, especially in recurrent hemorrhage or intractability.

2. A patient is presented illustrating intractability to lax medical care who responded on strict medical management without gastric resection.

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Scleroderma

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Scleroderma is chronic, progressive, systemic, often debilitating, all too frequently fatal disease of the mesenchymal tissues. Its name is a descriptive term derived from the smooth, shiny, hardened, bound-down skin classically afflicting its victims. As Goetz¹ pointed out in 1945, it is a poor name for a disease of such wide-spread ramifications. He suggested that it be dropped in favor of the more inclusive "Progressive Systemic Sclerosis."

Since "scleroderma is only one of the symptoms or signs of progressive systemic sclerosis,"1 his suggestion has met with applause but absolutely no support. It is difficult to be certain just why this is so. It is suggested that in addition to the fact that scleroderma is a name easily fixed in the mind of anyone who has read of or seen a patient with the disease, there exists a fundamental and virtually a universal economy of effort among writers and speakers, including Goetz himself. Scleroderma, while nosologically incorrect, remains one word for three. It may be defined as "an induration and sclerosis which may occur in any organ inclusive of the skin, the muscles and the blood vessels." Wherever it strikes, "the same changes occur viz. edema, followed by proliferation of connective tissue and sclerosis of collagenous bundles, resulting in many cases in atrophy of the organ concerned."

Scleroderma is a disease afflicting women more often than men in a ratio of about 2.7:1. Seventy percent of patients have the onset between the ages of 20 and 50.3-65 There does not seem to be any hereditary element in the disease or any relation between age of onset and prognosis. Its occurrence is frequently reported shortly following a surgical procedure, emotional upheavals, or physical crises.13 Its course varies from 8 months to 30 years. It seems to occur prominently among fair skinned people, although there have been no series large enough to substantiate this fully. Spontaneous recovery has been noted but, if true, it is rare.12 Some writers distinguish between circumscribed scleroderma (morphoea), acros scleroderma with Raynaud's Syndrome, Thibierge-Weissenbach Syndrome (scleroderma Raynaud's Syndrome and calcinosis), and the diffuse disease we are discussing here. We make no attempt to do so as

perusal of the literature has made us feel that scleroderma as an entity wears a variety of hats.

History The earliest description of scleroderma is attributed to one Carlo Crusio (or Cruzio) 14 of Naples who reported a case he observed and treated in 1752. While Crusio concluded that he was dealing with the skin manifestations secondary to vascular pathology it was not until the late 19th century that investigators began to report on the systemic nature of the disease. Interestingly, after they had done so, their findings lay relatively dormant and papers on the subject returned again to descriptions of skin lesions. This occurred ever though Hektoen2 in 1897 had described a patient who had myocardial. vascular and endocrine changes, Stevens3 in 1898 had reported the finding of central nervous system involvement, and Ehrman⁴ in 1903 had begun to write of esophogeal lesions. Why these reports were not investigated or at least confirmed in the early years of this century cannot be said. It is clear however that the numerous papers written in the past fifteen years have followed closely on the gradual and then precipitous, development of the concept of collagen diseases. In an article5 with precisely that title Dr. A. H. T. Robb-Smith of Oxford has outlined and attempted to sum up the history of the diseases "which have struggled on the collagenous band wagon."5 To follow such a lead here would necessitate a historical digression at once both broad and intricate. Suffice it to say for the moment that scleroderma has in recent years been explored minutely and in depth. It has emerged from this scrutiny firmly fixed among the systemic diseases, yet it remains impervious to our full comprehension,-an intriguing, but frustrating problem.

Signs and Symptoms The signs and symptoms of scleroderma are many and varied: corresponding to the wide spread mesenchymal involvement seen in this disease. As noted above, the most prominent feature, both to the patient and to the observer, is the progressive involvement of the integument and it is usually here that the disease is first manifest. Statistically, half or more sclerodermatous patients seek medical attention because they have noted swelling and/or stiffness of their fingers or hands.6,7 Many, in the excellent series of Beigelman, Goldner and Bayles, who did not note skin changes first, had fleeting joint pains as an initial symptom. Other writers have reported similar findings.7 Many patients have typical Raynaud's phenomenon both before and after the onset of other changes characteristic of scleroderma. The presence or absence of Raynaud's does not seem in any way related to the prognosis of the disease.1 In those who do manifest ulcerations and other secondary changes, sclerodactylia is more common.8 Most of those who do not are less sensitive to cold.7

The symptomatology following the onset of scleroderma literally reaches from top of the head to toe. Of the 15 cases reported by Beigelman et al:6

- 15 had cutaneous alterations,
 14 had some degree of cardiorespira-
- tory embarrassment (dyspnea, ankle edema, palpitations),
- 12 had lost weight unrelated to dysphagia or anorexia,
- 12 had typical Raynaud's (including 2 of 3 men).
- 12 had joint pains or swelling or stiffness or all three

- 11 had complaints referable to G.I. tract,
- 8 had dysphagia,
- 7 had weakness or became easily fatigued,
- 6 had fever.
- 6 noted hyperpigmentation,
- 6 noted vitiligo, 2 of whom had hyperpigmentation also,
- 3 were hoarse.
- 2 had pruritis and
- 2 had alopecia,

Others report vague abdominal pains, epigastric distress, constipation, diarrhea and cough. Leinwand et al⁷ noted that most patients have some degree of mental depression.

Physical findings are less numerous, and many patients found to have diffuse involvement at post mortem, may have only demonstrated cutaneous changes prior to x-ray, laboratory, or microscopic study. There is of course wide latitude here, and another patient may well have contractures, ulcerations, apparent calcinosis, cataracts, a systolic murmur, cadiomegaly, arrhythmia, dulled heart sounds, a friction rub (pleural or pericardial) ascites, ankle edema and/or cvanosis. But for all that a given patient may have, one cannot help feeling in reviewing the literature that the physical findings in this disease are always far behind the actual degree of tissue pathology.

There are a few laboratory findings until late in the course of this disease. There may or may not be a mild anemia at one time or another. About 50% of one series⁶ showed proteinuria (usually mild); most of another⁷ had normal urine. 73% to 85% of patients studied statistically had elevated ESR's. Various observers have noted varying degrees of hyperglobulinemia⁷ which Lein-

wand and Duryee feel may explain the occasional occurrence of positive floculation tests in the absence of reported pathologic changes in the liver. This same hyperglobulinemia has been reported in the gamma fraction^{9,10} and "indicted" as the metabolic "malfeasant" causing the disease. Before discussing this further it would be well to describe the pathology of the disease in more detail,

Manifestations

Skin As noted above scleroderma usually makes its first appearance in the skin and does so with the onset of subcutaneous edema. After a varying period, this edema subsides and is replaced by induration and atrophy. Generally this process takes place distally1 and involves only the fingers and hands. As the disease progresses the sequence is repeated further up the arm and many have reported the simultaneous presence of several stages of the disease.7 Eventually the affected parts become smooth, hard, and shiny. Crusio's original patient complained of an "excessive tension and hardness of the skin all over her body by which she found herself so bound and straightened that she could hardly move her limbs."14 He noted certain areas (eyes, lips, forehead, neck) "more constrained" than others, and stated that her difficulty stemed from the "hardness and tension of the skin and cellular membranes which did not yield to (muscular) contractions and relaxation." Of primary discomfort to the patient is the onset of awkward movement. This, in those severely involved, is replaced by weakness secondary to muscle wasting, actual limitation of movement attendant on tendon contractures and an inflexible skin, and the complications arising

from punched out ulceration over the tips of the fingers, phalangeal joints, elbows and knees. Some patients suffer from soft tissue calcifications^{15,6} and when this is present many extrude chalky material. Others develop sclero-dactylia with resorption of the terminal tufts of the phalanges and shortenings of the tips of the fingers and nails, ^{15,6,12}

Facial involvement creates an odd similarity of the facies, the nose sharpens, the lips pucker, and the appearance become pinched. Many patients develop hyperpigmentation, some vitilgo. The hyperpigmentation can resemble that seen in Addison's disease, although it has been noted that this never involves the buccal membranes. Microscopically the epidermis is thin with few flattened or broadened rete pegs. The dermis is compact with thickened collagen tissue, decreased number of blood vessels, fragmented elastic fibers and atrophic dermal appendages. Many blood vessels may be seen to have a thickened intima and to be undergoing "fibrinoid" degeneration.

In describing these changes it seems important to note early as has Bevans, 12 that this is not a disease marked by connective tissue overgrowth alone but one which includes degeneration atrophy of other tissues as well.

Gastro-intestinal Tract Since esophogeal lesions were pointed out by Ehrmann in 1903, many investigators have studied and written on this aspect of diffuse scleroderma. 4. 11, 12, 15, 16, 8, 7 Esophageal lesions, which as Katz 15 has pointed out, may be the only visceral manifestation of diffuse scleroderma, are said to be demonstrable in up to two thirds of individuals with this disease. They can actually precede the appearance of skin changes by five years

or more.16 When they do not, (as is the general rule) they nonetheless make an early symptomatic appearance. The complaints to which they lead are varied and include: dysphagia with or without vomiting, a feeling of retrosternal fullness or burning, a chocking sensation, epigastric pain, nausea and regurgitation. Malkinson16 has recently noted that even when symptoms are absent a barium swallow may reveal abnormal esophageal function. In the early stages this may simply be an incoordination of deglutition and/or a delay in the transits of the barium bolus. With progression of the disease, the classic findings of loss of peristalsis with narrowing of the distant end of the esophagous makes its appearance. This change may or may not be accompained by some dilation above the narrowed area secondary to a partial obstruction. This rarely progresses to complete obstruction but often is associated with reflux esophagitis, ulceration, and cicatrication.

Esophagoscopic studies reveal changes varying from ulcerations to hyperplasia. Goetz¹ records post mortem changes similar to leukoplakia and even areas of calcification. Numerous writers report muscular and mucosal degenerative changes which may be striking degree.⁸

The Stomach and Lower Gastro-intestinal Tract The stomach seems to be rarely and, when it happens, lightly involved in scleroderma. Of the writers who have reported on this involvement, only Katx¹⁵ speaks of actual cicatricial changes. Roentgenologically, Hale and Schatzki¹⁷ in 1944 were able to show delayed emptying, or antral spasm in some of their patients but were doubtful as to the significance of this. Most other

observers pause at the stomach only long enough, to relate its possible decreased motility to some of the gastrointestinal symptoms patients may note.

The duodenum is more frequently involved. X-ray evidence of this involvement was first recorded by Goetz and Rous20 in 1942. The duodenal stasis they observed on gastro-intestinal series is felt by Goetz to be one of the earliest manifestations of diffuse scleroderma. While noting elsewhere1 that reports on changes in the intestinal tract are scarce despite its early involvement, he characterizes those changes and states that, "The most striking radiological appearances are paralysis and lack of peristalsis particularly affecting the duodenum and jejunum with localized widening of the individual loops." Hale and Schatzki¹⁷ report similar findings and add that there is also noted decreased contractility with marked delay in barium passage, Malkinson¹⁶ and others point out that while small bowel changes are usually patchy they may be diffuse and have been reported presenting the picture of paralytic ileus.

Colonic involvement leads to changes similar to those seen in the small intestine, with x-ray findings characterized by areas of sacculation, alternating with some narrowing, and muscular rigidity.1 17 In Beven's12 two autoposy cases, marked muscle atrophy and fibrosis are described. It is not difficult to appreciate both dilation and stasis occurring secondary to this, and upon occasion giving rise to symptoms of constipation, mild crampy abdominal pain, and distention. In the far advanced patient already debilitated by poor nutrition and demoralized by the relentless progression of his disease, these are longer the simple complications

they seemed, and they call for the most astute and gentle medical management.

The Lungs In 1941 Murphy Krainin and Gerson²¹ reported on a patient ill of scleroderma who had associated, pulmonary fibrosis. Since their paper appeared many others have beeen published substantiating this finding. Notable among them are those of Getzowa²² Dostrovsky23 and Spain.24 The pulmonary lesions described by Getzowa are of two distinct types. The first of these is a cystic lesion which follows fibrosis of alveolar walls, a compromised capillary circulation, and the breakdown of alveolar septa. (Spain²⁴ suggests that this may come about by bronchiolar fibrosis with obstruction, and contributed to by superimposed chronic infection.) The second type of pulmonary lesion is a progresive compact sclerosis attendant upon alveolar fibrosis without tissue dissolution. Those other authors who have written on the lung changes in scleroderma do not in general describe them in as close detail as have Getzowa, Dostrovsky, and Spain. References to a greater or lesser degree of alveolar and interstitial fibrosis are however, common, and date back as far as 1904.25

On X-ray study, "The lower and mid lung fields show the most marked changes with fine linear streaks and a network-like pattern." ** extending toward the bases. Others may show a nodular type of fibrosis, also extending to the bases, broncho-alveolar cavities of up to 2 cm in size and at times, miliary calcinosis superimposed on a marked fibrotic process. These latter are of course obvious, but it is worth noting, as have Bevans ** and others, that parenchymal changes may be present at post-mortem far in excess of those dem-

onstrated roentgenologically before death.

Studies of pulmonary function in scleroderma are scarce. This may be in part an outcome of the general overmatter that by the time a patients disease has progressed to dyspnea or cyanosis. its manifestations elsewhere are of an overwhelming nature. A few reports have appeared where this is not the case, Spain and Thomas24 were able to carry out cardiopulmonary physiologic studies on a man who's presenting symptoms were dyspnea and cough. Their findings are twofold and as summarized below, comprise alterations both in functional capacity and respiratory function:

Patient Normal

	<i>Patient</i>	Normat
Vital capacity	1750	4140
Residual air	921	1335
Oxygen saturation	91%	98%
at rest		
Oxygen saturation	81%	
after exercise		
Right ventricular		
blood pressure		28/0-4
With respect to fund	ctional cap	oacity the
authors noted a de	creased vi	tal capa-
city with a relatively	increased	total vol-
ume of residual air	. They co	onsidered
these changes a resu	ltant of th	e various
forces which tend to		
of breathing and tho		
interfere with the no	rmal expar	nsion and
contraction of the li		
include a thick, tig		
ment, diaphragmatic		
and inelastic parer		
muculature, and an		
tive emphysema. A		
could lead to serie		
sufficiency. Their p		
creased respiratory		
with a pronounced b	lock in ga	seous ex-

change even before exercise. They, together with Cournand and Baldwin, considered this of even greater import than the mechanical impediments above. It is but a step from an oxygen saturation of 91% to that of the "Black Cardiac."

Cardiovascular System Hektoen's paper in 1897 on the visceral manifestations of scleroderma makes mention of myocardial hypertrophy and intersititial mycocarditis. He did not attribute these changes to the generalized disease and many years passed before this was done. Credit for the knowledge we have today of scleroderma heart disease goes in large measure to Goetz of South Africa and to Weiss and his co-workers here in the United States.

Weiss, Stead, Warren and Biley6 in 1943 detailed the history of nine patients with scleroderma, cardiac symptomatology, and an unusual type of myocardial fibrosis. Two of these nine developed their cardiac symptomatology up to two years before they were found to have diffuse scleroderma. The remainder had variable degree of skin. joint and vasomotor involvement. The cardiac signs and symptoms they demonstrated varied from patient to patient. All had dyspnea, many had cyanosis and at times orthopnea and several had paroxysmal nocturnal dyspnea. Of the six who died, all had frank chronic heart failure. Some showed decreased heart sounds and a diminished apical beat. Others had a gallop rhythm, apical murmur or a pericardial friction rub. (This latter correlated well with Bevan's12 finding of acute and chronic pericarditis in one of her cases.) All had enlarged hearts which, (in six), cast triangular shadows on X-ray.

Goetz's20, 27 cases revealed similar

	STI	

	GOETZ	LEINWAND	WEISS	FRIEDBERG	BEIGLEMAN
# Cases	3	51	8	-	14
# Abnormal EKG's	3	5 + 20 minor	8	-	11
Low EMF	2	X	3	X	X
AF	1	X	1		X
PVC's	2		3		×××
Block	1		4		**
Prolongeal QT		×			X
Slurred ORS				X	
Flat Diphasic or Inverted	1			×	X
T Waves Prolonged PR				×	

findings, though, interestingly, have had for the most part normal or small sized hearts. He has made kymogram studies and noted blunted excursions consistent with poor pulsations and a not infrequently lowered systolic pressure. These hearts, when decomposed respond poorly to Digitalis. EKG studies vary from author to author and can best be summarized in the table shown above.

Berglman and his co-authors make the point that while most EKG changes are non-specific they do reflect an abnormal myocardium, and that in five of their six fatalities profound changes were observed.

Leinwand et al. have pointed out that in their series of autopsied patients there were only a few who did not reveal some pathological change in the heart. Weiss and his associates, and Goetz, have described these changes in great detail. Three types of lesion may be observed.

- Early: Normal muscle tissue in which can be found interlacing strand of young, highly vascular, connective tissue.
- 2. Intermediate: Scattered areas of

scars amid normal muscle together with muscle undergoing various stages of degeneration,

 Late: Diffuse and extensive fibrosis tissue on occasion spanning the entire myocardium.

Peculiar to these changes, is the high degree of vascularity of the connective tissue there, and the absence of any relation to the vessels of the heart wall itself. These findings together with the absence of hemosiderin usually seen with fibrosis secondary to vascular disease lend strong support to the concept that scleroderma is not a disease resulting from vascular lesions with scarring, but one of primary overgrowth of the connective tissues themselves.

Vascular Changes The lack of correlations between blood vessel changes and collagenous tissue overgrowth seen in the heart is not observed elsewhere. In the skin, lung, liver, spleen, gastro-intestinal tract and muscle, the reverse may, in fact, be the case. At least blood vessel changes in these sites are marked, obvious and widespread. Three types of vascular alterations are described. 7.1.6

- (a) Artertitis with cellular infiltration of all vessel coats with or without intimal proliferation may occur. There may be medial degeneration and sclerosis,
- (b) More or less complete obliteration of the vessel lumen due to intimal proliferation without cellular infiltration is noted.
- (c) An arteriosclerotic type of lesion in the kidney similar to that seen in patients having hypertension has been described.

Usually the smaller arteries are involved, though digital, coronary and cerebral changes may be seen. When these changes are observed in conjunction with either considerable collagenous tissue overgrowth or local organ degeneration, it is rarely possible to establish which change led to what other. Thus three schools exist who believe either that:

- The fibrous degeneration is secondary to blood vessel changes or,
- Blood vessel changes are secondary to a generalized process also exerting an effect on collagenous tissue in general or,
- We are not near the truth in this matter as we would like to think.

Renal Involvement In 1898 Stevens reported signs of interstitial nephritis and evidence of recent signs of parenchymal inflammation at autopsy in diffuse scleroderma. Since his paper appeared it has become apparent that involvement of the kidney occurs in practically all patients. The changes which may be seen microscopically are several, and their description varies from author to author, Bevans in 1945, reported glomerular lesions similar to those found in lupus erythematosis.

Goetz1 directly contradicts this on the ground that the "wire loop" glomerulus is eosinophilic, while that he observed stained with Mallory blue, as does fibrous tissue elsewhere. Leinwand et al7 do not argue the point, but state simply that glomeruli may be entirely fibrosed, and that renal blood vessels may show acute arteritis or arteriosclerosis with greater or lesser parenchymal changes, Moore and Sheeban²⁹ are considerably more specific than this. They describe a particular type of process which they found present in three fatal cases and reported in Lancet in 1952. Microscopic study enabled them not only to describe the pathologic process, but to evolve an explanation of that process itself. Accordingly, the initial lesion is dilation of the proximal portions of the intralobular arteries with a mucoid-like thickening of the intima of those vessels, and a secondary atrophy of large parts of the renal cortex. This is followed by fibrinoid necrosis of the distal parts of the intralobular arteries and of the afferent arterioles with consequent acute renal ischemia. They found neither "wire loop" glomeruli, not infiltrations resembling the process of periarteritis nodosa, and point out that while the lesions they studied resembled those of malignant hypertension, none of their patients had this disease clinically.

Before discussing the work of Moore and Sheehan further, it might be well to note, first, that for the most part, investigators have been unimpressed with kidney involvement in scleroderma although obvious at autopsy. For instance, it is known, that while approximately 50% of the fifteen cases studied by Beigelman and his associates had proteinuria, this was usually mild, and there were no patients with urinary

9 patients

8 only mild or transient improvement

I severe hypertension and nephrosclerosis

2 aggravation of arrhythmias

I seems to have improved

8 patients

All improved, 2 unchanged

2 had increase in blood pressure

I long term improvement

symptoms. Leinwand et al7 state that all kidney function tests are normal until the terminal phase of the disease. This is worthy of attention as it is precisely this that has been described by Moore and Sheehan, and we have evidence that scleroderma may, upon occasion, run a fulminating, terminal course characterized by renal insufficiency. The clinical situation is that of a patient, with extensive but not necessarily otherwise pre-terminal disease, who suddenly develops pronounced proteinuria together with red and white cells, and "often rather numerous granular and hyaline casts."13 Associated with this change is oliguria. progressive azotemia, and death in from two to four weeks from the onset of renal damage, A case discussed by Sprague et al is an interesting example of this situation, and one in which the microscopic findings at post mortem were precisely those described by Moore and Sheehan. How often this syndrome occurs in the absence of an elevated blood pressure, as occurred in their patients will have to await further study.

Skeletal Muscle In the course of scleroderma, both muscular atrophy and degeneration occur. The former is a direct result of the disuse secondary to contractures, a tight overlying skin or pain. The latter is a cause for much interest. Numerous papers have appeared on the subject because of certain similarities to the process seen in

dermatomyositis. Beerman8 has summarized these discussions nicely. dermatomyositis there exists a diffuse and profuse infiltration of lymphocytic and plasma cells in muscle tissue. The degeneration theory seems to be a result of this inflammatory process, and while perivascular infiltrations are present, vascular and connective tissue changes are minimal. In contrast to this, vascular changes in scleroderma are the most apparent lesion with small cell infiltrations occurring to a lesser degree. Numerous writers however. among them Goetz, Weiss, Leinwand and their associates have observed and pondered over sections of tissue, in which it was either difficult or impossible, to distinguish between the muscle degeneration seen in scleroderma and that of dermatomyositis.

Miscellaneous Pathology In addition to the above described major organ system involvement, scleroderma on occasion, leads to changes elsewhere in the body. These can be tabulated briefly:

Bone: Sclerodactylia — a slow progressive absorption of the tufts of terminal phalanges. This can lead to synostosis of the distal inter phalangeal joint

spaces.

TEETH:

Uniform widening of the peridontal spaces may occur as a result of thickened peridontal membranes.

Uterus: Fibrous infiltration may occur. This can also be shown in the prostate, spleen, and elsewhere.

Eyes: Werner's syndrome — a combination of scleroderma, bilateral juvenile cataracts, early graying, and endocrine disturbances has been described.

NERVOUS Duryee reports electroencephalographic abnormalities in eighty percent of patients with scleroderma, Cerebral vascular changes are well known, but do not appear to lead to clinical manifestations.

Endocrine Fibrous and vascular Systems: changes have often been described in the thyroid and elsewhere. No conclusive evidence of secondary endocrine imbalance has been found, although many authors have concerned themselves with this problem.

Associated Entities In 1941, Singer and Dameshek described a hemolytic process associated with cases of lymphatic leukemia, Hodgkins disease, carcinomatosis, sarcoid, dermoid cysts, lymphosarcoma, and chronic liver disease. Since then this "symptomatic hemolytic anemia" has been found with viral diseases, multiple myeloma, polyarteritis nodosa and in up to 12% of patients having lupus erythematosis. Fudenberg and Wintrobe³¹ have described a patient with scleroderma who presented this syndrome, and in whom a

good response to cortisone therapy was obtained.

It has been observed by a number of investigators, that patients with dermatomyositis have a greater incidence of carcinoma of the lung. Iansson and Houser³² suggest, in reporting a case of their own, that the same may well be true in scleroderma. They have reviewed the literature on this matter and while cases are rare, they speculate on the possibility that the profuse squamous cell metaplasia present in the proliferative connective tissue of scleroderma, may be a precancerous lesion.

Course As noted earlier in this paper scleroderma is a disease of variable duration. It may exist for many decades or it may follow a fairly rapid course, Fortunately this latter condition is rare and the general case is one of many years standing. Actual statistics on causes of death are not available. From those cases discussed in the literature renal, cardiac and pulmonary insufficiencies would seem to account for a large number. These complications generally occur on a background of diffuse disease-frequently in patients long bedridden because of contractures and for whom the mere taking or retaining of proper nourishment is a practically insurmountable problem, Such patients.-even in the absence of congestive heart failure or chronic pulmonary disease are of course prey to a host of intercurrent illnesses which eventually are incompatible with life.

Therapy Treatment of scleroderma, a matter still under investigation, is replete with conflicting evidence and debate. Today's physician can easily envy Cruzio and his colleague of 1752. They were faced, not with this, or that series, but a fresh and heretofore undescribed

disease. They proceeded in a systematic, straightforward and intriguing manner. Observing that their patients skin resembled a tough hide they prescribed a series of treatments to render it more pliable. The first of these consisted of milk and water baths. When this treatment failed, they turned to a humid atmosphere. Six treatments opened her pores but were without lasting benefit. Meanwhile her physicians were cogitating on the nature of her disease. Perhaps, at least in part because of the difficulty they had encountered in performing therapeutic venesections, they decided her primary defect was vascular. "Wishing to penetrate into the most remote and subtle receptors of the vessels"-to open the strictures they felt were "formed in the vascular structure." They prescribed a course of mercury. Despite an "efforescence" of some duration this had a good result. The same has been reported at one time or another for the following list

treatments:
spray radiation, stellate-block, sym-
pathectomy- none of which
have been of avail
for more than brief periods ⁶
mercury, gold ar- senic, bismuth, iron
thyroid, stilbes- trol, relaxin, tes-
tosterone, AT-10 C. E. D, nicotinic acid
papaverine, prisco- line
typhoid
benedryl
penicillin

SALICYLATES acetosalicylic acid
Steroids All to date

Of this partial list only the last two remain in current use, and even their evaluation is difficult because groups are small and individual patients are not really comparable. The largest series we have discovered are those of Beigelman and Leinwand et al.^{6, 7}

Sprague¹³ reports that four patients receiving ACTH developed severe hypertension and renal insufficiency. Other authors report variable results. No one has claimed to have shown much more than the symptomatic relief seen with other collagen diseases. In this regard Bauer and Ropes³⁸ state, "Hormone Therapy . . . can be limited to the extremely ill patient with periarteritis nodosa or dermatomyositis who has serious and potentially fatal disease. There seems relatively little indication for its use in scleroderma." They suggest aspirin as the drug of choice both for its symptomatic value, and its possible anti-inflammatory action. With or without aspirin, or steroids the therapy of scleroderma remains expectant, supportive, and frustrating.

Etiology To discuss the etiology of scleroderma is to walk in the unknown, where it is sometimes impossible to distinguish between that which is deduced from fact and that which is merely assumed. Two broad groups of theories exist. One relates to, or stems from the formulation in recent years of the concept of collagen diseases. The other embraces those ideas either antedating or ignoring the concept. Let us consider the latter group of theories first.

Historically, scleroderma was first thought to be vascular in origin. Cruzio¹⁴ in the first known description of the disease felt the skin problem with which

he was faced was secondary to strictures "formed in the vascular structure of the skin which by hindering the fluids from circulation through their respective canals had deprived them of that humidity which nature has made necessary for their flexibility and softness." Many have agreed with him in the 200 years since this excellent, if somewhat mechanistic, bit of logic first appeared. The reason is readily apparent.-for since the earliest of pathologic examinations, students of the disease have been impressed by the vascular lesions nearly always described. We have but to add to this the prominence of vasospasm in patients with the disease to understand that a vascular etiology could well be a reasonable conclusion. As recently as 1953 Mufson,18 in an article on the psychosomatic aspect of scleroderma, describes the basic pathologic physiology as chronic vasospasm, and he is not alone in this belief. The difficulty with this theory, as with others based on vascular abnormality, is that many microscopic changes can be found which cannot be related to the blood vessels in the area. (see Weiss et al. on cardiovascular involvement).

Over the years endocrine disturbances have been suggested by numerous writers. Of these, which include hypoand hyper-thyroidism, hypoadrenalism, ovarian and pitutary dysfunction, and an abnormality in calcium metabolism, it is the last which has stood the test of time. While parathyroidectomy as a treatment has been discontinued and consistent serum calcium and phosphate abnormalities have not been found, no one has yet explained why calcinosis occurs, why the tissues of the sclerodermatous patients contain more calcium than normal, or why Selye⁸⁴ was able

to demonstrate scleroderma like changes in rats with the injection of parathyroid extract.

A great deal of interest has been stimulated by the postulate that scleroderma is a neurological and/or psychiatric disturbance. Marshalled as evidence in support of these are:

the symmetrical lesions, the EEG abnormalities, and the "cures" following sympathectomy and phenomena of vasomotor insta-

This later has been described well by Mufson.18 "The spasm is cyclic in the mild case and sustained when . . . severe. The skin in the severe case remains permanently cold, numb and cyantoic." He relates these to psychological stimuli and feels that scleroderma is but extension of Raynand's syndrome in individuals exceedingly susceptible to threats of death or loss. Others have noted that scleroderma not infrequently has its onset following an operation of other trauma. McMahon et al.10 have detailed a patient in whom any emotional disturbance led inevitably to a flare up of the disease, and for whom psychotherapy seemed of some benefit. In a disease at once so little known, and in which spontaneous remissions are so frequently seen, such contentions are hard to substantiate. Perhaps McMahon himself has given us the lead we need to do this, in suggesting that sclerodema may be a disease of inadequate adaptation. The thought is an intriguing one and could easily embrace such diversified theories of etiopathogenesis as exposure to excess sunlight, drug reactions, and allergic response to any of a host of acute infections. We know, of course, relatively little concerning the adaptation of the human to stress.

discuss it in relation to the possible etiology of scleroderma leads from the area of specific causation of the disease to the concept of collagen diseases as a whole,

In 1929, Klinge published a paper in which he noted that basic pathologic process in rheumatic fever was a degeneration of the connective tissue fibrils with the formation of a waxy highly refractible mass. This fibrinoid necrosis was first described in 1880, and is a morphological term for distinct changes in the staining and other characteristics of collagenous tissue.35 The term has come into widespread use and by some is used to describe not only fibrinoid degeneration per se, but mucoid degeneration of the ground substance as well. Both of these changes have been shown to be secondary to alteration and combination with tissue or blood proteins, of the mucopolysaccharides which form a large component of the ground substance. In the process itself, apparently a change in the colloidal state of the collagen, the ground substance becomes a swollen homogenous mass, and the collagen fibres in it become distinct, eosinophilic, and refractile.

In a later article, Klinge³⁶ showed changes similar to these and to the lesions of periarteritis nodosa in hypergic rabbits. Not long thereafter, fibrinoid degeneration was described in dermatomyositis and in 1938 in sclero-derma by Masugi and Ya Shu.²⁷ These and other papers provoked Banks³⁸ to write a paper entitled "Is there a common denominator in scleroderma, dermatomyositis, disseminated lupus erythematosis, the Libman Sacks syndrome and periarteritis nodosa?" and to suggest they could be grouped properly as dif-

fuse vascular, or mesenchymal diseases.

In 1942 an article appeared in the Journal of the American Medical Association by Klemperer, Pollach and Baehr³⁵ which has since been quoted by all who have written on collagen disease. The authors define the connective tissue system, as such, and note that scleroderma and lupus erythematosis show similar pathological changes. Most prominent among these is fibrinoid degeneration which they state "can be due only to a profound physiochemical aberration of the colloid state of the connective tissues". Just what in turn brings about this colloid disturbance was not clear to Klemperer and his associates at that time, and still remains hidden from our view.

Because fibrinoid degeneration can be produced experimentally as a response to allergens, many have subscribed to a theory that collagen disorders in general are manifestations of hypersensitivity. Kampmeier, ²⁹ Beigelman⁴⁰ and others have suggested that "the intensity and location of (tissue) reaction, presumably allergic, determines the particular exression of illness."

This theory has an intense intellectual appeal for within its confines the collagen diseases can not only be categorized and unified but can be expected to overlap somewhat. Beigelman takes the platelet thrombosis syndrome as a point of departure. In this rapidly fatal disease, widespread platelet thromboses of capillary and precapillary arterioles produce hemorrhage, anemia, and necrosis. In presenting two patients with a somewhat milder form of the disease he is able to find changes, not only of the above, but indistinguishable from lupus erythematosis as well. In other pa-

tients it has been possible to find the stigmata of periarteritis, scleroderma, dermatomyositis, lupus, and rheumatoid arthritis6 in coexistance. By visualizing collagen disease as an allergic response and its manifestation as function of location, severity and intensity to that reaction, Beigelman is able to explain such mixed pathology and to evolve the scheme shown in chart on right.

Despite the obvious appeal of the above plan, it is predicated on the assumption of hypersensitivity and subject to the faults of such assumption, (for instance, it does not explain the predominance of females who develop

REACTION SITE	COURSE
Intima	Rapid
Mesenchyme	Slow
Media	Variable
Mesenchyme	Rapid
Mesenchyme	Slow
	Intima Mesenchyma Media Mesenchyma

lupus and scleroderma). Its real value is the same as the so called "Concept of Collagen Disease" itself. That is, to provide a unifying principal from which other investigation may proceed further. Examination of Ehrlich's 1 proposition that the fundamental nature of Collagen Disease is a dysgamma-globulinema is an instance in point,

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AN EXERCISE IN DIAGNOSIS— THE CASE REPORTS

In addition to our regular quota of original articles and departments, this issue, and every issue, contains selected Case Reports. You will find them on pages 347-358. We recommend these studies as interesting and stimulating.

Cancer of the Lung

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careful survey of the medical literature published during the last few years will convince any observer of the tremendous importance given to the subject of cancer of the lung by the profession as a whole. Such interest in this field is, without doubt, well justified, since cancer of the lung has unfortunately become a foremost killer, especially in males past the age of forty. This explains the understandable increase in papers on this subject from 1 in 1920 to 151 in 19501 and as yet untabulated further flooding of the literature since the latter date. Commensurate with the increased interest, of course, there has been both a relative and an absolute increase in the number of cases of cancer of the lung since the turn of the century. The death rate for cancer of the lung in the United States rose from 5.3 per 100,-000 in 1930 to 27.1 per 100,000 in 1948, whereas cancer deaths other than in the lung among white males increased from 152.1 in 1930 to 165.2 in 1948.2 In Baltimore City, the recorded death rate

from cancer of the respiratory passages jumped from 89 for a population of 838,764 in 1936 to 240 for a population of 963,500 in 1953.³

Any discussion of the etiology of cancer of the lung necessarily has to be influenced by the uncertainties surrounding the nature of cancer anywhere else in the body. The subject of possible etiological agents has been so exhaustively and repeatedly expounded both in medical and lay publications that it will be omitted here. Suffice it to say, however, that the incrimination of inhalant irritants has only reached the stage of a plausible theory, which as such is no reason to abandon our efforts to establish or deny conclusively a specific cause and effect relationship between these substances and pulmonary cancer.

The lungs and the air passages originate by a budding process from the primitive foregut. The adult epithelial lining is pseudostratified columnar epithelium except for the alveoli whose lining has been the subject of considerable controversy among histologists. In a recent study, Ryan, McDonald and Clagett⁴ have shown that there is an 8 per cent incidence of squamous meta-

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plasia in the bronchial epithelium in routine necropsy specimens. Incidence of such metaplasia goes higher in cases where one lung has been removed for a non-cancerous condition. The factor of chronic irritation causing such metaplastic changes certainly cannot be ignored, as most of the surgically removed lungs were foci of chronic infection-tuberculosis, bronchiectasis, abscess, etc. In cases of pneumonectomy for carcinoma of the lung there was a 12 per cent incidence of in situ or frank carcinoma on microscopic examination of the opposite lung even though the bronchi appeared normal on gross examination.

There are three main microscopic types of cancer of the lung (non-epithelial cancerous growths are not included in this study): (1) Squamous cell, or epidermoid, (2) Adenocarcinoma and (3) Undifferentiated, or anaplastic. Squamous cell growths are the ones most commonly seen in men, arise from the larger bronchi and are relatively slow in growth and metastasis. Adenocarcinomas more commonly arise from the smaller bronchi in the periphery and are the kind more frequently found in women. The undifferentiated growths are quick to metastasize and hence more difficult to cure.

Unlike in many other non-neoplastic diseases, the appearance of symptoms in cancer anywhere is usually an ominous sign. This is specially true in cancer of the lung where the presence of so-called characteristic symptoms is usually a sign of far-advanced disease. The triad of cough, hemoptysis and chest pain has been considered typical of this disease but all too often they signify a tragically non-remediable and hopeless condition. It behooves every physician

to take any pulmonary symptom very seriously especially in a man past the age of forty, more so if the complaint drags and persists unduly in spite of therapy. There is an occasional patient with cancer of the lung in whom symptoms are entirely abdominal. In a recent study of 298 patients with cancer of the lung we⁵ reported 3 such cases, in one of whom a subtotal resection of the stomach was carried out for a gastric ulcer with recurrence of identical symptoms a year later. No jejunal ulcer was found but a lesion was seen in the chest roentgenogram. Removal of the lung relieved his abdominal symptoms completely. It is well to remember also that cancer of the lung can produce or mimic any or all of the commonly seen pathological conditions in the lungs and unless one is aware of such a possibility, very valuable time can be lost by treating the patient for what actually is a secondary or superimposed condition. Cancer of the lung may manifest itself in the form of an abscess, atelectatic segment or lobe, localized emphysema with wheezing or pleural effusion. The masking of the tumor by these other states should not lead the physician to be complacent about ruling out the possibility of an underlying malignancy in these cases. In elderly individuals symptoms and signs suggesting an unresolved pneumonia have to be taken very seriously and the possibility of an underlying malignancy ruled out.

At the present stage of our understanding of cancer of the lung, there is no aspect of the disease more vital to us as physicians—general practitioners and specialists alike—than early diagnosis. It is in this field that our effort, vigilance and improved technics will pay high dividends in our over-all results. Although early diagnosis is the condition for cure in all cancerous growths, it is especially important in the lung because of the rapid growth and metastasizing of most cancers in the organ and the prolonged silent or asymptomatic phase of the disease. To these must be added the lack of sufficient awareness on the part of the treating physician of the increasingly frequent possibility of the existence of cancer in any chronic pulmonary complaint or physical and radiological finding. This is particularly true if the patient is a male over the age of forty.

The role of the history in arriving at a diagnosis has been discussed in a previous paragraph. It is well to point out again that the history is highly suggestive only in far advanced cases and that in early cancer a high degree of suspicion must be present in the examiner's mind on the basis of what might be very meager atypical clinical history. Physical examination is notoriously unreliable by itself in arriving at a diagnosis. It is very useful, however, in detecting evidence of extra-pulmonary metastasis in inoperable cases. The finding of palpable firm nodes, specially in both supraclavicular regions, paralyzed diaphragm or vocal cord can be extremely helpful in arriving at a final diagnosis. Physical findings on examination of the lungs can be variable and are more often noted by their absence. As mentioned previously, almost any pathological state in the lungs or pleural cavities can be caused by a cancerous process.

Of the laboratory studies used in arriving at a diagnosis, chest roentgenography and bronchoscopy are the two most useful and the combined use of both procedures should reveal either a clinical or a tissue diagnosis in most cases. The chest X-ray by far is the most important of the two. There are, however, no infallible criteria that establish the diagnosis. The single round mass, segmental or lobar atelectasis, localized emphysema, hilar density or pleural effusion are some of the most frequent X-ray appearances of lung cancer.

It behooves every physician handling a case of suspected pneumonia to follow the course of the disease by repeated chest films until complete clearing. Relying on patient's symptoms or even the physical findings is notoriously fallacious, as a small area of non-resolution of the process rarely is detectable by anything except roentgenography. This again is specially important if the patient is a male in his middle or late years.

Laminographic and bronchographic studies are additional helps. Occlusion of a segmental or lobar bronchus shown on bronchography, specially if present on repeat examinations, in an area of lung infiltration of uncertain etiology, can be very significant. It must be borne in mind that non-filling of a bronchus may be due to technical difficulties or presence of plugs of secretions, which makes it imperative that such examinations be repeated and the block demonstrated again.

Bronchoscopy is the second most useful aid and a relatively safe procedure even in poor risk patients. The earlier the disease is detected, the less likely will be the positive diagnosis by endoscopy unless the tumor arises in one of the easily accessible central bronchi. In a recent series we³ reported a 15.8 per cent positive biopsy in patients with carcinoma of the lung who were sub-

jected to exploratory thoracotomy. It is of interest that the positive biopsy yield was 28 per cent in those explored but found non-resectable, and 9.5 per cent in those where the lung could be extirpated. Other authors7, 8 have reported a higher percentage of positive bronchoscopic tissue biopsies. Bronchoscopy is also of invaluable aid in gaining a clinical impression of malignancy even though no tissue is obtained for biopsy. Presence of distortions or displacements of the bronchi, extrinsic compression changes and the finding of bleeding from a suspected segmental orifice all can be very significant. Widening and loss of sharpness of the carina is also a significant finding, many times indicating the presence of involved carinal lymph nodes.

Cell studies of the sputum or bronchoscopic washings is another valuable adjunct. Recognition of the malignant cells in these preparations is not easy and gives best results only in experienced hands. Negative results naturally are of no significance while positive results point out the need for further close investigation. Aspiration of pleural fluid, if present, can yield positive results but the presence of malignant cells in the fluid is an indication of inoperability.

Puncture or needle biopsy of a pulmonary lesion is mentioned only to be condemned. It is too hazardous a procedure and should be reserved for cases which are considered inoperable clinically but in whom a tissue diagnosis is lacking. Besides the usual dangers of pneumothorax and hemorrhage, there is the even more serious hazard of disseminating cancer cells along the needle tract.

When there is a strong clinical sus-

picion of cancer of the lung with no definite tissue diagnosis, exploratory thoracotomy is indicated as a last resort in arriving at a diagnosis as well as performing the definite therapy. Such exploration is relatively safe in the modern era of thoracic surgery and may be the only way of arriving at a diagnosis. Facilities for safe thoracic procedures are available in most communities at present and it is the duty of every physician to see that his patients are not denied the benefits of early exploration.

Before surgery is carried out it is imperative that a careful study be made of any evidence of inoperability. Any palpable lymph nodes should be biopsied, specially if found in the supraclavicular regions. Presence of a pleural effusion, specially if hemorrhagic, is usually an indication of inoperability although not in all cases. The presence of malignant cells in it, however, leaves no doubt as to the inoperability of the Vocal cord and diaphragmatic paralysis due to the involvement of their respective nerves is considered by most surgeons as signs of a non-resectable lesion. However, there have been reports where this has not been the case and radical surgery has been able to extirpate the lesion. The chances of successful resection with involvement of these nerves is very low. Direct bony invasion as well as distant osseous metastases have to be ruled out by appropriate studies. Recently, attention has also been drawn to the finding of a frozen hilum of the lung as shown by laminography as a sign of inoperability. Bronchographic demonstration of submucous extension of the growth into the trachea or the other bronchus9 has also been advanced as a finding of inoperability although it is doubtful whether they will

prove very practical or reliable methods of ascertaining the extent of the disease.

Cervico - mediastinal exploration through a "phrenic" incision under local anesthesia is a very useful procedure to determine the extent of the disease. The scalene area is explored first, and if suspicious nodes are found in the fat pad, these are removed and studied by frozen sections. If negative the exploration is continued through the same incision to include the paratracheal nodes. The finding of several involved nodes is usually an indication of non-resectability of the lesion. The decision to withhold exploration becomes more difficult, however, if one single metastatic node is found deep in the mediastinum near the lung root. It is this author's opinion that such cases should be explored and given the benefit of a radical mediastinal lymph node dissection in addition to the pneumonectomy.

Early and radical surgery is the accepted mode of treatment for most malignant growths including cancer of the lung. Unfortunately this is not to say that we have found the final answer in surgical extirpation. Theoretically, of course, all cancers are curable if excised radically before they have spread beyond the confines of the surgical procedure. However, as pointed out previously, such an ideal situation does not exist very frequently, which accounts for recurrence and/or the appearance of metastases after excision of the primary growth.

Pneumonectomy is the treatment of choice for most cancers of the lung although in selected and favorable cases, lobectomy is receiving wide acceptance. Extensive mediastinal lymph node dissection is usually advisable, the results being more satisfactory in cases with no

palpable mediastinal involvement than in those with obvious gross metastases. Attachment of the growth to vital structures such as the esophagus, aorta, vena cava or the heart is usually a finding of non-resectability, although in some cases radical excision of those structures with the tumor has been carried out. Bloc excision of the ribs with their intervertebral muscles in cases of chest wall invasion has also been advised but the prognosis after surgery in these advanced cases is generally poor. Lobectomy for cancer can be performed either as an elective procedure in certain early peripheral tumors or bad risk patients or as a palliative measure in patients with a complication such as abscess or bleeding.

Radiation therapy, either conventional or supervoltage, has been reserved for inoperable and non-resectable cases. There has been to date very little if any experience with primary treatment of resectable lesions with radiotherapy to prove its efficacy as against that of surgery. It is reasonable to assume that the newer supervoltage technics will prove very helpful in patients for palliative purposes if not curative for early cases. Tumor cell sterilization of the original lesion can already be accomplished by such technics although this is in no way an indication of complete cure.

The 5-year survival state for those who survive extirpation is encouraging but far from satisfactory. We³ reported recently an over-all survival rate of 26.6 per cent which is, with slight variations, the percentage of cures reported by most workers in the field. It is hard to predict, however, the course that each individual case will follow since the natural history of cancer appears to vary so widely from one patient to another.

Summary

Cancer of the lung rates high among the causes of death in males

over forty.

In the fight against it, it is imperative that physicians develop an alert sense of awareness of the possibility of the disease in any chronic pulmonary complaint and physical or radiological finding. Early diagnosis is still our best approach to this challenging problem.

Early and radical surgery is the best means presently at our disposal to treat lung cancer. Newer methods of radiotherapy are fast becoming indispensable adjuncts to surgical treat-

ment.

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Algonquin Hotel

Clini-Clipping

Method of recording the venous pulse. The suction cup is applied over the jugular bulb on the right side of the neck.



"No matter what the therapeutic system
a cure still depends
on the artist in the doctor."
GERBER

ARTHRITIS and the General Practitioner

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In this age of modern civilization with its fast cadence of living both physical and mental stress add more and more burden on humanity. Frustration of hope for the aged, seclusion with television programs, loneliness and neglect of the "old man" by the socially conscious young generation, fading of security for retirement on account of the high cost of living and heavy taxation create a grave problem not only for the patient but also for his physician and especially for the general practitioner who is the family friend, counsellor and inspiration.

With the increase of our geriatric population, chronic illness becomes more and more prevalent and therefore assurance must be given to the man whose life span has been increased that he will be able to maintain his economic and social status through his earning power in the field of gainful employment. Therefore, life must be compatible not only with physical well being but also with the emotional and spiritual make up of the individual.

Arthritis, which is one of the most devastating of the chronic and crippling diseases, is still the bête noir of medicine. The fear of wheel chair existence, the anxiety of utter helplessness haunt these patients who are grasping at all promises of cure.

Since the etiology is still unknown, symptoms of the physical and psyche must be treated not only through the use of drugs, physical agents and surgery but also through tender and loving care. The day of useless and non

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scientific putterings is over and no patient should be dismissed with the cold words of "you have ARTHRITIS and nothing can be done for it, get used to living with it."

Yes, it is the sacred duty of the physician to offer help to these sufferers otherwise they will seek the offices of the irregular practitioners and spend their dwindling incomes on nostrums.

The management of arthritis should be carefully planned with definite and future objectives in mind. Such regime should include: relief of pain and muscle spasm, prevention of deformity, reeducation in postural and occupational habits, vocational guidance, good nursing care, intelligent home treatment, appliances, proper shoes and the close team work of various specialties if and when it is necessary.

The general practitioner can accomplish a great deal in his own office without the benefit of fancy and expensive equipments. I think the most valuable equipment is understanding and devotion to the patient which cost absolutely nothing. Physical agents such as heat, massage, water, exercises and various splints have been used to alleviate pain and prevent deformities. It's always easier to prevent flexion contractures than to cure it.

Heat This modality may be applied in different forms such as, infra-red lamp, moist hot compress, paraffin bath, electric pads and baths. Heat will bring about vasodilatation and will relieve muscle spasm. Since individuals who suffer with peripheral vascular disease cannot accommodate increase in blood flow, care must be exercised in giving heat. The best way is through reflex action such as submerging the upper extremities in water to stimulate

increased circulation in the lower extremities. Temperature has to be prescribed for home treatment and a bath thermometer will help.

Infra red Infra red can be given both in the office and home. The lamp is kept 24 inches from the tip of the bulb to the body and exposure is perpendicular to the body surface, the time is from 10 to 30 minutes.

Moist compress There is a chemically treated moist compress on the market which will retain the heat for a long while and can be easily adopted to any contour of the body. It supplies even heat and can be used over and over again.

Paraffin bath About ten pounds of paraffin should be boiled in a double boiler and when all the paraffin melted but one piece then it is ready for dipping. The hands may be dipped into the paraffin with fingers abducted. Ten dippings are sufficient to form a thick glove over the hands. The patient retains the glove for thirty minutes and then peels it off. It can be used repeatedly. It is useful in supplying heat to the hands and fingers. In case of backache or knee pain it can be painted on the parts involved. Three coatings are sufficient.

Heating pads The pad is turned on low and applied to the affected parts for twenty minutes while the patient is in bed. Then upon arising, the patient is instructed to take a tub bath, 98-103 degrees F. for twenty minutes. Instruction includes careful and thorough drying of the body after the bath and the avoidence of draft.

Patient's relatives can be instructed in the application of smooth and rhythmical massages to the body followed by alcohol sponging. Massage is not used over bony prominences and over swollen parts especially when inflammation is present.

Posture In order to relieve physical stress and strain on the body, correct standing, sleeping, walking and working posture are prescribed for the patient. Correct standing consists of holding the head up, chin in, chest up, lower part of the abdomen in and up and the feet parallel with weight evenly distributed. During sitting the body is held as tall as possible, lower part of the back resting against the back of the chair, arms an abduction over the arm rest and feet are crossed, weight resting on the outer border of the foot.

Walking should be encouraged with feet pointing forward and parallel to each other with weight on the outer and fore part of the feet. In case if the patient cannot walk unsupported crutch should be used instead of a walking cane. Sleeping should be encouraged on a hard mattress with a small pillow under the nape of the neck but NO PILLOW under the knee joints. If there is a tendency for plantar flexion of the feet a foot board should be prescribed.

Shoes should be well fitting and wide enough. In cases of pronation of the feet, long arch support of the foam rubber type and Thomas heel should be prescribed. Socks or hose should be a half an inch longer than the foot and it should be wrinkle free and no irritating thread knots.

In cases where a wheel chair is essential, the chair should have adjustable foot rest in order to prevent knee contractures and be supplied with arm rest wide enough to support the arms.

Correct posture in working is very important especially in sedentary occupation. Forward bending to be performed at the waist rather than at the neck or upper dorsal region. Lifting should be carried out with flexed elbows and knees.

Exercise The most useful exercise is the constant usage of the extremities as required by the daily living. In case if mild occupational functions cannot be carried out then the female patient can wash out her fineries, wash dishes, clean up the house and make pastries where the kneading of the dough will afford good hand coordinating functions. The male patient can help around the house with daily cleaning and polishing, dusting and sweeping up the yard. In the summer, garden work is very useful. Furthermore, hobbies can be developed which eventually may change his economical status.

In severe cases exercises should be given on prescription and demonstration both to the patient and to his relatives. The exercise should include slow, gentle and rhythmical motion, progression and time element. It is advisable that heat should precede exercises for 15 minutes in order to relax the musculature.

Exercises for the shoulders, neck, hip and lower extremities are carried out with the patient in the supine and relaxed position whereas exercises for trunk extension, hamstrings, neck extension and gluteal muscles are carried out in the prone position.

Exercises for Rheumatoid arthritis. Lying on the back with knees in full extension, the patient contracts his abdominal muscles, flattening the abdomen. Holding the leg straight, move the leg 15 inches to the side and back. Flatten the neck by making a double chin and at the same time stretch up to the top of the head as if to pull the ears away from the shoulders.

For the quadriceps exercises in knee pathology, the patient contracts the muscles on the top of the thigh, pulling on the knee cap and flattening the knee. This exercise may be increased to ten times.

Patient still lying on the bed, bends his knees and feet placed on the bed, pulls in the abdomen, squeezes the buttocks muscles as if to roll the seat off the bed, tilting the pelvis and flattening the lower back on the bed.

With elbows bent at right angle and upper arm is resting on the bed, bring the fingers to the tip of the shoulders: keeping the palm of the hand turned up, push the hand down toward the bed while straightening the elbow.

Lying on the back and legs extended the patient pinches his shoulder blades together. For hamstrings stretching, the patient lies in the prone position and bends his knees back as far as possible with resistance then the exerciser stretches the heel cords.

In the case of spondylitis, breathing exercises to maintain good thoracic excursion are very important.

Splinting Appropriate orthopedic appliances are employed for placing the involved extremities in functional position and to prevent deformity. Many of these splints could be made at home, saving the patient large expenditure. In case of a cock-up splint where the object is to prevent flexion deformity of the wrist, an empty small fruit juice can may be strapped to a plywood board and will answer its purpose. The patient drinks the juice and utilizes the can. For finger deformities, a plastic custard cup, costing five cents, can be glued to a board and maintain the palm and fingers in a functional position. Placing a large cork around the handle of a fork, knife or spoon will aid many patients in self feeding who cannot completely flex the fingers.

Summary

- 1. Arthritis is a daily problem in the practice of medicine and the patients need reassurance.
- Physical medicine is a useful adjunct in the treatment of the disease.
- 3. It is easier to prevent deformity than correct it.
- 4. Arthritic patients should be treated medically, emotionally and spiritually to obtain the best result.
- 5. The general practitioner sees most of the patients first therefore the initial treatments are important.

916 South 20th Street.

Clinico-Pathological Conference

UNIVERSITY HOSPITAL AND HILLMAN CLINIC

This 55-year-old colored female was admitted to University Hospital and Hillman Clinic for her fourth and last time October 12, 1956, in a moribund state.

The patient was first seen in July 1952. History revealed that she had been in good health until February 1952 when she developed "flu." Treated with antibiotics, the acute episode subsided; however, she continued to have a chronic cough, productive of thick yellow sputum with paroxysms of coughing occurring usually during the night.

Two weeks prior to admission she coughed up two to three tablespoonfuls of dark red blood followed two days later by massive hemoptysis of one-half to one pint of bright red blood. She was admitted to a private hospital where she received blood transfusions with some improvement. She was then transferred to the University Hospital for further evaluation of her lung disease.

Physical Examination Blood pressure 94/60. Pulse 104. Respiration 20. Positive physical findings included crepitant rales in the right apex and left base

Discussant: Tinsley R. Harrison, M.D., Professor of Medicine, Medical College of Alabama.

Pathologist: Joseph F. A. McManus, M.D., Professor and Chairman, Department of Pathology, Medical College of Alabama and Chief, Pathology Service, University Hospital.

of the chest. There was a grade 2 systolic murmur at the apex with no cardiac enlargement. The liver and spleen were not palpable.

Laboratory Data The Mantoux Test was weakly positive. EKG: normal. Chest x-ray showed extensive soft, hazy, patchy infiltration throughout both lung fields. A later film revealed complete consolidation of the right middle lobe of the lung. A right supraclavicular fat pad biopsy showed "numerous hard tubercles, consisting of a few giant cells at intervals. There are hemosiderin macrophages present, but no tubercle bacilli are seen." Total serum protein 11.6 gm %; albumin 4.5 gm %; globulin 7.1 gm %. A repeat total serum protein was 13.6 gm %; albumin 4.5 gm %; globulin 9.1 gm %. Vital capacity 1.2 liters (39%). Sputum studies were negative for acid fast bacilli and fungi.

Course The patient was discharged and seen at monthly intervals until September 1952. At that time further studies for pulmonary tuberculosis were negative. In September 1952 the patient had an episode of acute arthritic of metacarpophalangeal joints of the right hand. Following this she did not keep her return appointment and was next seen in June 1955 with a history of having been in a local hospital in May 1955, three weeks prior to this visit, with hemoptysis and swelling of the ankles: she had been placed on digitalis. Physical examination at this time showed a blood pressure of 160/80. Pulse 70. The heart was not enlarged and no murmurs were heard. The liver was palpable two finger breaths below the right costal margin. There was threeplus pitting edema of the lower extremities. She was maintained on digitalis, a low salt diet and diuretics. She was seen at intervals in the outpatient clinic; on September 20, 1955, the total serum protein was 10.7 gm %; albumin 3.65; globulin 7.05,

Third Admission In January 1956 the patient was again admitted to the hospital with a history of increasing shortness of breath, dyspnea on exertion, paroxysmal nocturnal dyspnea and massive swelling of the ankles of three weeks' duration.

On examination the patient appeared chronically ill and was very dyspneic with tachypnea. The neck veins were distended and the breath sounds were decreased over the right lower lung field posteriorly where fine crepitant rales and a pleural friction rub were heard. The precordium was hyperative, P_2 was accentuated and loud, and a grade 3 systolic murmur was heard at the apex. The liver extended to the level of the umbilicus and the spleen was firm and palpable three finger breadths below the left costal margin.

There was marked ascites and varicosities of the lower extremities. The venous pressure was 240 mm saline. Circulation times: Arm to lung 28 seconds; arm to tongue, 35 seconds. Total serum protein 8.85 gm %: albumin 3.9, globulin 4.95. Thymol turbidity, 14.4 units; cephaline flocculation, 4 plus; alkaline phosphatase, 8.0 (Bessey-Lowery Method — normal: 0.8-2.9 units). PSP: 33% excretion in two hours. BUN: 23.7 mgm %. Urinalysis: specific gravity 1.005; albumin two plus; microscropic, occasional WBC and innumerable gram negative rods.

The patient was treated with antibiotics, low salt diet, diuretics and digitalis and responded well. She was then managed in the outpatient clinic and maintained on digitalis.

Acute In July 1956 the patient was readmitted to University Hospital with complaints of weakness, diarrhea, anorexia, marked dyspnea, orthopnea and increasing edema and ascites of three weeks duration. At this time she appeared both acutely and chronically ill, had marked dyspnea and orthopnea and deep cyanosis. Blood pressure 90/64. Pulse 42. The neck veins were distended and at the apex of the heart a grade 2 systolic murmur was heard, this being transmitted into the axilla and through to the back. The breath sounds were decreased throughout the lung fields and soft crepitant rales and a pleural friction rub were heard over the right lower lobe of the lung posteriorly. The

liver extended to the level of the umbilicus and the spleen was again palpable three finger breaths below the left costal margin. There was a fluid wave in the abdominal cavity with shifting dullness, bilateral varicosities and three-plus pitting edema of the lower extremities and one-plus sacral edema. There was a small subcutaneous nodule at the site of the previous supraclavicular fat pad biopsy. An EKG revealed auricular fibrillation with bigeminy and a rate of 36. Digitalis was discontinued.

At this time, biopsy of the subcutaneous module revealed a stitch abscess.

Laboratory Lab findings showed: PCV 50; calcium, 7.1 mgm %; phosphorus, 4.5 mgm %. Repeat calcium, 9.8 mgm %; phosphorus, 3.4 mgm %.

Total serum protein, 7.9 gm %: albumin 2.8 gm %; globulin 5.1 gm %.

Cephaline flocculation was two-plus at twenty-four hours and four-plus at forty-eight hours; thymol turbidity, 9.0 units; BSP 22.5% retention, and PSP 15% excretion in two hours (no dye excreted in 15 minutes). Urinalysis: specific gravity 1.010; trace albumin; microscopic, occasional RBC and WBC.

Pulmonary function studies were attempted at this time, but were un-successful. The patient was treated for digitalis intoxication. given spectrum antibiotics and diuretics. Because of poor response she was started on large doses of Meticorten with INH and dihydrostreptomycin. Subjectively she responded dramatically but after ten days of therapy, patient refused all medications and left the hospital against medical advice. She was managed in the outpatient clinic, but her course was progressively downhill with cough, dyspnea, dizziness, pain in the chest and ascites.

Final Admission The final admission was October 10, 1956, the patient being semi comatose with marked dyspnea and rapid shallow respiration. There was ascites, hepatosplenomegaly, marked emaciation and cyanosis. Attempts to digitalize the patient were unsuccessful and she expired approximately eight hours after admission.

Clinical Discussion Dr. Harrison: We have for discussion today a problem which is not uncommon and which appears to be becoming more common, namely, that of an individual with a fatal illness involving multiple organ systems.

Four years before her death this Negro woman, in her middle fifties, had profuse hemoptysis which began some five months after the development of a chronic productive cough which seemed to follow a respiratory infection. When first seen she was in mild shock, rales were heard at the base of the lung and at one of the apices. She had a grade 2 systolic murmur.

On that admission the tuberculin reaction was weakly positive and the radiologist described "soft generalized pulmonary infiltration" and later "consolidation of the right middle lobe." At that time a supraclavicular fat pad biopsy was done and tubercles without caseation were found. On this admission the serum globulin values were 7 and 9 grams percent. Her vital capacity at that time was very low; so low we are almost certain of pulmonary disease because patients with cardiac failure will usually die before the vital capacity declines to 1.2 liters. No acid-fast bacilli or fungi were found in the sputum.

I assume that the diagnosis on this first admission was sarcoidosis on the basis of the microscopic findings and the high serum globulin. The question is whether sarcoid could explain the whole picture.

Possible Causes In view of the massive hemoptysis one has to think about the possible causes. Subsequent events appear to exclude some of the common causes such as carcinoma of the bronchus and pulmonary infarction. In a female patient one immediately thinks of three things: mitral stenosis, tuberculosis, and bronchiectasis. There is only slight evidence in favor of each of these conditions.

Three and one half years before death, or about six months after the first admission, the patient developed what is said to be arthritis; it is not described in detail and one wonders whether the patient had 1) an unrelated arthritis, 2) the type of pain in bones and joints which occurs in people with pulmonary disease and is part of pulmonary osteoarthropathy, or 3) painful lesions in the bones of the hands as the result of sarcoidosis.

Enlarged Heart About a year and a half before death the patient again had hemoptysis, and, for the first time, ankle edema. This time heart murmurs were not found. The statement is made at this time that "the heart is not enlarged" — and that statement always amuses me. Cardiac enlargement is commonly based on x-ray evidence and the radiologists have always been the first to admit that they frequently cannot recognize the enlargement unless it is pronounced. The right ventricle enlarges forward and this often is difficult to detect.

When a patient has cardiac edema the heart is usually enlarged but constrictive pericarditis is sometimes an exception.

I doubt the statement that the heart

wasn't enlarged but I would accept the fact that it wasn't enlarged by routine radiographic methods.

On the second admission the patient again had hemoptysis. Since there is evidence for sarcoid it might be mentioned that hemoptysis is not a common manifestation of sarcoidosis, at least in my own experience.

However, the patient does have awo findings which are common in sarcoidosis: enlargement of the liver and spleen. It is true that people with right sided heart failure, which this patient apparently had, have enlargement of the liver. They rarely have an enlarged spleen, however, unless they have bacterial endocarditis or constrictive pericarditis. It is true that at autopsy the spleen weighs somewhat more than normal in persons with congestive failure but it is rarely large enough to feel, except under the conditions mentioned, in a person with simple congestive heart failure.

Therefore enlargement of the spleen in this patient is of much more significance than the enlargement of the liver which might easily be the result of right sided heart failure. It is noteworthy that the serum globulin is again markedly elevated.

The patient improved and eight months before death was again seen, this time having obvious overt cardiac failure. She is now having paroxysmal dyspnea and the problem is whether this is pulmonary or cardiac parozysmal dyspnea. Patients with pure right sided heart failure have pulmonary rather than cardiac dyspnea. Cardiac dyspnea is due to congestive edema of the lungs as seen in the patients with left sided heart failure.

In a patient presenting the obvious picture of right sided heart failure there is often a problem in deciding whether the individual has primary left sided heart failure with secondary right sided failure or whether there is a primary disorder of the lungs with a cor pulmonale. Here we have some important evidence for the latter. The circulation time is prolonged from arm to lung and is normal from lung to tongue. This is important because disease of the lung does not ordinarily delay the movement of blood from lung to tongue. Disease of the heart with congestion of the lungs does prolong it.

There are two means by which sarcoidosis may cause heart failure; directly by invading the myocardium, or indirectly by extensive obliteration of the pulmonary vascular bed with consequent cor pulmonale. Both may occur in the same patient. A loud pulmonic second sound tends to confirm the suspicion that the patient has pulmonary hypertension.

Systolic Murmur She now has an hyperactive heart with a grade 3 apical systolic murmur. The murmur was present on the first admission, then disappeared, and now returns. Which of four possible causes of the systolic murmur is the most likely?

Was it the result of increased pressure in the pulmonary circuit, which frequently produces such a murmur?

Patients with mitral stenosis frequently have a systolic murmur in the pulmonary area.

Any patient who has right sided heart failure may have tricuspid insufficiency.

Or, is there mitral insufficiency either of the organic type due to rheumatic heart disease or relative to dilatation of the left ventricle?

The fact that the murmur is loudest at the apex excludes pulmonary hypertension as the cause of the murmur if the observation we are given in the protocol is correct. The disappearance of the murmur on the second admission is rather strong evidence against organic disease of the mitral valve. Likewise, the circulation times previously mentioned speak against organic mitral valve disease and against left ventricular failure with relative mitral insufficiency.

Collagen On this admission the patient has ascites, the spleen and the liver have become more enlarged and there is now impairment of liver and kidney function. The patient also has urine loaded with bacteria indicating a urinary tract infection, provided the urine was examined as soon as it was obtained. There is abvious involvement of liver, spleen, heart, lungs, and kidnevs. This immediately suggests two other possibilities. One of them is the broad group of collagen diseases. If you have two "itises" you do not think seriously about collagen disease; with three "itises" you begin to think about it, and with four "itises" you give it very serious consideration.

There is no other evidence to support the idea of polyarteritis, lupus or some such disorder, but I mention it because multi-organ system involvement always should suggest the collagen group of disorders. Another possibility in a person with involvement of liver, spleen, kidneys, lungs, and heart is amyloidosis and I was rather surprised in going through the protocol to find that no one had done a Congo Red test on this patient, Perhaps it is in the record.

Dr. Marietta Crowder: It was never done.

Dr. Harrison: I am rather surprised because in a patient with hepatosplenomegaly, albuminura and elevation of blood pressure at times, evidence of renal failure, and a story that can be interpreted as chronic pulmonary infection, either bronchiectasis, tuberculosis or some fungus one certainly should have thought of amyloid in this patient as a serious possibility.

Three months before death the patient had mild diarrhea. I do not have any mental association between diarrhea and sarcoidosis but I do have a very definite association between diarrhea and amyloidosis. Intestinal amyloidosis is relatively common. I have neither seen nor read of sarcoidal involvement of the intestine sufficient to produce symptoms. Therefore the diarrhea makes me wonder again about amyloid disease.

Pulse Three months before death pleural pain occurred. At this time, the patient has auricular fibrillation with bigeminy. I assume she had digitalis intoxication and evidently that is what the house staff thought also. It is stated that the heart rate is 36. I wish to introduce a note of disbelief. I have never seen a person with bigeminal rhythm with a heart rate of 36. That would mean an effective heart rate of 18 and people faint before the heart rate is that slow. I think what is meant is that the pulse rate was 36 and the heart rate was 72. That the heart rate was 36-I do not believe!

Dr. Crowder: The pluse rate was 36. Dr. Harrison: All right. Now she has a low serum calcium. One would have expected it to be high because of the hyperglobulinemia. It is said that the renal function is impaired and the urine is described as having albumin and a low specific gravity but there is no statement about an attempt to achieve a maximal gravity. I was amazed at the absence of a statement about the blood

urea nitrogen in this patient. This is important! If the patient had nitrogen retention we can account for the low serum calcium value despite the hyperglobulinemia on the basis of uremia.

Dr. Claude Holland: The blood urea nitrogen was 55.

Dr. Harrison: Now we have a logical explanation for the presence of a normal or low serum calcium despite hyperglobulinemia.

At this time the patient still has impaired liver and kidney function. She is given hormonal and antituberculosis therapy and apparently improved temporarily. However, she soon dies with what appears to be final pulmonary failure.

Where there is disease of many organ systems I always think of Hodgkins disease, and allied lymphomas. There is no evidence for this; it is just one of the things we must consider when a patient presents a bizarre clinical picture characterized by remissions and by multiple organ system involvement. We may dismiss it in this patient.

We must consider rheumatic heart disease, but one would have to stretch one's imagination to explain the spleen and the hyperglobulinemia. Anyone can have rheumatic heart disease and die of something else. But I can't pin rheumatic heart disease on this patient. All we have is a systolic murmur heard on three of four admissions, and that isn't enough evidence. If she has it, I would predict it would be purely incidental, but I don't think she has it. I think there are better explanations for that systolic murmur.

We must consider collagen and arteritic disease in a person with an intermittent course over four years involving as many areas of the body and proceed-

ing to death. But the only evidence for it is she has multiple organ system disease.

Tuberculosis was obviously suspected but acid-fast bacilli were not found. Giant cells that looked like tuberculosis or sarcoid were demonstrated. One can say that no one who had tuberculosis, accounting for the degree of lung involvement that this patient had on the first admission, would have this clinical course. Enlargement of liver and spleen are common with tuberculosis, but it is usually with the very rapid miliary type. Renal tuberculosis produces a different picture. Tuberculosis cannot account for this picture.

Amyloid The stage might have been set by either bronchiectasis or tuberculosis for amyloid. If this is secondary amyloidosis, we have to explain the cardiac failure on the basis of cor pulmonale secondary to amyloid infiltration of the lung because myocardial amyloidosis is rare with secondary amyloidosis. If we call this primary amyloidosis and attribute the heart failure to primary amyloidosis then the kidney, liver, and spleen don't fit well. On the other hand, as mentioned a moment ago, there are many features of this illness, including the diarrhea which would fit quite well with amyloidosis and I do not believe we are in a position to exclude that diagnosis with certainty.

Sarcoid It would appear from reading the protocol that sarcoid was the diagnosis during life. Sarcoid may cause heart failure by infiltration of the myocardium or by the mechanical obliteration of the pulmonary vascular bed. I deem it obvious that the patient had a cor pulmonale and one of the undecided questions is whether she also had myocardial infiltration with either sarcoid

or amyloid. Kidney disease is not as common in sarcoidosis as in amyloidosis, but it is not excessively rare. The excessive globulin might occur with either sarcoid or amyloid but of course is more typical of sarcoid.

Then there are the giant cells. Amyloid has nothing to do with giant cells, sarcoid has everything to do with giant cells. Before we see the x-rays, my tentative impression is this individual had sarcoid plus something else. Something else might have been amyloid. I would like to get Dr. Schneider to help us before we offer any final opinion.

Dr. Schneider: I have films of the chest and abdomen for discussion.

The abdominal films show mild hepatomegaly and moderate splenomegaly. There is inferior displacement of the left kidney by the enlarged spleen. An I.V.P. shows normal size kidneys with bilateral mild caliectasia as seen in chronic pyelonephritis.

The chest shows many findings of interest.

There is extensive linear and nodular pulmonary disease with interspersing cystic lesions of variable size throughout both lung fields, though primarily involving the right middle and both upper lobes. The middle lobe and lingular also have areas of lobular confluency.

Moderate symmetrical enlargement of the hilar and peritracheal lymph nodes is present. Within the nodes are scattered calcified plaques lying primarily at the periphery. This distribution is called "eggshell" calcification.

Bilateral pleural thickening is present obliterating the costophrenic sinuses. A few scattered calcified pleural plaques are present bilaterally.

The margins of the heart are obscured by the lingular and middle lobe disease but multiple positional views of the chest suggest mild nonspecific enlargement.

The pulmonary arc segment is obscured by the lymphadenopathy.

In comparing the serial chest examinations during the course of the patient's illness, the pulmonary disease shows a progression in the cystic disease but little change in the interstitial disease. The lobular areas of confluency vary in location and severity, showing periods of resolution and recurrence.

This fluctuation suggests varying degrees of superimposed pulmonary congestion rather than reversible inflammatory disease. Furthermore, with the severity of the chronic pulmonary disease and the minimal cardiac enlargement, I suspect the presence of Corpulmonale.

The type of hilar calcification present is most frequently seen in complicated pneumoconiosis, particularly silicosis. However, an exposure history is lacking.

Tuberculosis or fungi may cause hilar calcification as well as explaining the pulmonary and pleural disease.

Histoplasmosis I am particularly concerned about the possibility of histoplasmosis which is endemic in this area.

As to sarcoid, the radiographic pattern would be entirely compatible, except for the lymph node and pleural calcification.

I have found a few comments in the literature of an occasional finding of calcification in sarcoid, but without complication, it is hard for me to conceive that this can occur in sarcoidosis.

Dr. Harrison: Dr. Schneider has introduced one additional interesting possibility, namely that of histoplasmosis which certainly can be a tricky disease and which can produce chronic disease of the lungs, enlargement of liver and spleen and which can involve the kidneys.

The relatively few instances of diffuse histoplasmosis which I have seen have had a more rapid down hill course than this and are characterized usually by a febrile illness. It is one of the fungi that has short teeth. I've read some place that at times one may get giant cells from histoplasma, and the formation of pseudotubercles, so to speak, from histoplasmosis.

Dr. Schneider raised another question which is interesting in the light of these giant cells and that is the possibility of some type of pneumoconiosis. Certainly, a foreign body reaction in the tissues might produce a lesion which would be very difficult to distinguish under the microscope from either sarcoid or tuberculosis. The presence of calcification in this patient, as Dr. Schneider points out, is evidence against sarcoidosis. I believe it is evidence against amyloidosis also. However, it is not evidence against some chronic infection which might co-exist with sarcoid or which might lead to amyloidosis. In this patient the absence of enlarged lymph nodes, the absence of any statement about skin lesions or the parotid gland or eye are all against sarcoid. But most of the picture, in my mind, favors it.

I believe this patient had 1) sarcoidosis with involvement of the lungs, liver, kidney and spleen and almost certainly the internal lymph nodes of the body and 2) cor pulmonale. I think it is likely that the patient had 3) myocardial sarcoidosis to account for the terminal auricular fibrillation, but I would expect that the heart failure is mainly the result of the mechanical troubles of the lungs. I would suspect that subsequent

to chronic sarcoidosis that the patient had 4) focal emphysema as such patients often do. I can account for sarcoid in all features of this picture except one and that is the hemoptysis, and perhaps the rather marked terminal emaciation. We know that something like one quarter of the people who have sarcoidosis have active tuberculosis at autopsy. Tuberculosis is perhaps the most common single cause of hemoptysis in a colored female, age 55.

I therefore believe that this patient had sarcoidosis (Boeck's Sarcoid) involving the organs mentioned and in addition had 5) tuberculosis of the lungs.

Dr. Harrison's Diagnoses:

- Sarcoidosis with involvement of lungs, liver, kidney, spleen and internal lymph nodes of the body.
 - 2. Cor pulmonale.
 - 3. Myocardial sarcoidosis.
 - 4. Pulmonary emphysema, focal.
 - 5. Pulmonary tuberculosis.

WARD DIAGNOSES:

- 1. Sarcoidosis, generalized.
- 2. Cor pulmonale.
- 3. Digitalis intoxication.

Twenty-seven students diagnosed sarcoidosis. Three of these students had a secondary diagnosis "to rule out tuberculosis"; four, "secondary amyloidosis" and one "to rule out carcinoma of the lungs."

PATHOLOGY DIAGNOSES:

- Chronic granulomatous inflammation consistent with sarcoid involving lymph nodes (thoraco-abdominal), spleen, liver and lungs.
- 2. Multiple foci of calcification, thocaco-abdominal lymph nodes and lungs.
- Amyloidosis, secondary, involving lymph nodes, spleen, liver and lungs.
 - 4. Chronic passive hyperemia of liver

with hemorrhage, focal acute inflammation with necrosis.

Pathology

Dr. J. F. A. McManus: This long and complicated case has been boiled down to the very fundamentals by Dr. Harrison and some of the students. At the time of autopsy this was an emaciated, colored female who showed peripheral edema and otherwise nothing very much externally remarkable. The spleen was about twice normal size, smooth and symmetrical. The liver was about normal size. There was an obliterative pleurisy of fibrous, old type binding down both lungs so that the parietal pleura had to be removed with the lungs. With the parietal pleura there was a considerable increase in the weight of the lungs, the right weighing 725 grams and the left weighing 475 grams. The heart was remarkable chiefly for some dilation of its right side and the presence of a fibrinous pericarditis, fairly recent in origin, for which there is no explanation apart from the possible uremic termination.

On the basis of arterio- and arteriolar nephrosclerosis with focal pyelonephritis affecting both kidneys, their weight, including the peri-pelvic fat, was down to 120 grams apiece. This weight of 120 grams for a shrunken kidney with increased peri-pelvic fat probably means that 4/5 of this is actual functioning kidney weight. Both kidneys were scarred and decreased in size. The lymph nodes within the body generally were enlarged and firm. Foci of calcification were seen in them.

Within the lungs was found a diffuse fibrosis, arteriosclerosis of fairly marked degree and emphysematous blebs or cyst-like spaces which correspond to the x-ray description of Dr. Schneider. In many instances these emphysematous blebs were in relation to areas of scarring, of rather small size and suggest that some destruction of lung tissue had occurred to produce the emphysema. The right lower lobe was solid and congested, but microscopically this was largely on the basis of particular accumulation of fluid and some collapse as well. There is no sarcoidosis of the heart; there was no sarcoidosis in the kidneys.

Sarcoidosis Lesions of sarcoid were well seen in many areas within the lungs and within the spleen. There were tubercles without caseation still present four years after the original lymph node diagnosis of sarcoidosis was made. In many of these situations one sees a hyalin material which corresponds in staining reaction to amyloid and one sees in sections of the spleen a summary of the story in the autopsy, i.e. sarcoidosis and amyloidosis.

The lymph nodes showed amyloid deposit. One sees in certain areas where the amyloid is found that there is a hyalinization of lesions which have the outline and distribution of sarcoid. A possibility exists that a certain number of these lesions which we are now calling amyloid represent this particular variety of healing of sarcoidosis which Teilum and others have mentioned, that is, the association of a hyalin material called para-amyloid, with sarcoid. This is a point which I think is outdated. The separation between amyloidosis and para-amyloidosis is an unnecessary one unless there is a good enemical basis upon which to make this separation. We do not have such at the present time. I am more of a mind to call this amyloidosis than to add any para-, pseudo-, semi, demi, or any other modifying

phrases. Perhaps these amyloid deposits represent healed sarcoid too. As far as we can make out the staining reaction, with acid mucopolysaccharide around the masses in the older centrally situated portions, being weakly positive with periodic-acid-Schiff stain, gives a characteristic distribution in the lymph nodes and a characteristic coloring reaction for amyloid.

Liver Within the liver, amyloid deposits press the liver cells together. In many instances there is some atrophy of liver cells. The liver also shows marked chronic passive congestion with focal necrosis. Perhaps the best distribution of amyloid in this patient is in the multiple fine nodules in the lungs. Here there is some chronic infection and a rather massive distribution of extracellular hyalin material with the staining reaction of amyloid. These multiple small lesions, with their extremely wide distribution in the lungs, were sufficient to reduce significantly pulmonary capacity and sufficient also to represent a considerable barrier to the circulation so that the dilation of the right heart. and perhaps some hypertrophy, of the cor pulmonale type, could have been due to this amyloid deposit as well as to sarcoidosis, many active foci of which were still to be found.

Dilation was the most striking feature of the right heart. I am just not sure how much hypertrophy there was in that chamber. Dr. Harrison. It may have been minimal. There are no adequate methods for quantitating weight of the right ventricle. We might as well include what we can see and if clinically this fits the picture of our pulmonale we will agree that that is a good likelihood. Certainly, there are signs of right sided heart failure in the severe chronic

passive congestion of the liver which terminally was actually much more acute with foci of necrosis and acute inflammation. Marked fatty change in the liver relates to the extended illness and the nutritional condition of the woman. The bilateral focal pulmonary emphysema to the degree of cysts, we have already attempted to explain and the bilateral, marked fibrous pleural adhesions are necessary to mention because these may give a clue to the earlier features of the case to correlate with some of the clinical findings. There was a bilateral obliteration of the pleural spaces.

The problem of the pathologist, in attempting to work back from the findings at one instant, i.e. at the time of death or at the time of biopsy to reconstitute a picture is something that presents many difficulties. It has been said we are trying to investigate a battle field of long ago and from the remnants attempt to decide who was fighting and at what time and at what strength the struggle occurred. We have no evidence of present tuberculosis in this case. The best evidence of past tuberculosis we have in the case resides in the bilateral obliterative pleurisy and in the foci of pulmonary calcification as Dr. Schneider pointed out. We did, I don't know how many, acid fast and special fungi stains without seeing present disease due either to fungi or to the mycobacterium. It is highly probable that in the past, perhaps with the initial episode, there was an active tuberculosis which is now well healed, but which has persisted as its associate. The frequent associate of tuberculosis is the sarcoidosis of Bessnier-Boeck.

Amyloidosis The calcification in sarcoid can occur as microscopic foci which are the Schaumann bodies. We don't believe that the type of calcification which was found here was related even to a great aggregation of the Schaumann bodies. It is believed rather that this was the tombstone of old tuberculosis which might have been the presenting disease.

The picture has been taken over by sarcoid from tuberculosis, and then in turn the amyloidosis supervened in the sarcoid. The long and respectable history of amyloidosis dating back to Rokitansky in 1842 and Virchow in 1854 is too familiar to all of you to need repetition. Let me mention only a few of the present opinions that may relate particularly to this case. We are thinking more and more of secondary amyloidosis as perhaps a storage variety, a thesaurus, if you will, of the collagen disease group, the polysystem disease group.

Amyloid, as a particular compound of protein and carbohydrate, may be the excessive accumulation of a normal constituent of the ground substance or perhaps an abnormal ground substance-like material deposited in these many extra-cellular situations. We think of secondary amyloidosis as particularly related to these diseases of the hyperglobulinemia groups, the extended antibody reaction type.

The classical type, of course, is tuberculosis and chronic suppuration, particularly of bone. One finds mentioned from time to time in the literature of an association with sarcoidosis such as is present in this case. The relationship of hyperglobulinemia in sarcoid is such a striking thing that Teilum, as I mentioned before, has already referred to this as a lesion which has alongside of it, and in its healing phases, this amyloid material. He speaks of these lesions in the lymph node as hyperglobulinemic lesions.

The case, then, seems to tie best together as tuberculosis which has left as its sign only the calcification and the obliterative pleurisy, some fine scarring within the lungs and calcifications, all of which has been associated perhaps from the beginning, and certainly from the time of the first admission, with sarcoidosis and on which amyloidosis has supervened. I think the case is interesting also from this, perhaps, newer concept of a storage variety of one of the systemic or collagen diseases.

Dr. Harrison: I would like to ask if anyone knows whether people with Kala Azar, who of course have very high globulins, often have amyloid disease. It seems to me, as Dr. McManus said, our thinking is moving away from specific etiology toward specific mechanisms. The more one follows people with amyloid, the more one realizes that it tends to occur in conditions in which globulin is high. There are a lot of different globulins, and it may well be that in some of the diseases with high globulins, amyloidosis doesn't occur because of the wrong kind of globulins. Multiple myeloma, the disease other than sarcoid which we see in this part of the world with the highest globulins, also is associated with amyloidosis very frequently.

Dr. McManus: And even clinically,

Dr. Harrison, in surgical pathology we are seeing amyloid tumors, so called, and patients later pop up with multiple myeloma. It may be such a close association.

Dr. Harrison: It makes one think that perhaps we are getting a little closer toward understanding the pathogenesis of this very bizarre and interesting disorder, amyloidosis. I will make another comment because Dr. Boyd isn't here to make it and I know he would.

He would talk about words and he would be amused at Dr. McManus quoting someone about para-amyloid because amyloid itself means starch-like and if you are going to say amyloidoid then you would have amyloidoidoid, etc., etc., ad infinitum. And incidentally, sarcoid also, you see, is one of these things that has an "oid" on it. Whenever we get something we don't understand and it bears a superficial resemblance to something we do understand we put "oid" on it thinking we can explain it. That is a common way to use words in medicine. Finally, I really believe it is a shame the pathologists missed the amyloid in the intestines which must have been there to account for the diarrhea.

Dr. McManus: The amyloid if ever present in the intestine was like the tuberculosis. It went away, not being seen in section.





PERRIN H. LONG, M.D.

EDITORIALS

Tetanus

Most of the practitioners in the United States have years pass by without their seeing a patient who has tetanus. Indeed, in about a quarter of our states, there were five or less instances of this disease per state between 1951 and '54. Vital returns from four states (Vermont, Pennsylvania, Utah and Nevada) during this period do not list reports of tetanus. On the other hand, at the University College Hospital at Ibadan in Nigeria, tetanus is the third most common cause for admission to the adult medical wards², and in many other countries of the world it is an important cause of death.

The incidence of tetanus has showed very little change in the last ten years in the United States, although it would appear that the case fatality rate may have decreased in that period. While this offers some consolation, it is important to remember that the case fatality rate from tetanus is generally more than fifty percent, no matter what part of the world is reporting its vital statistics.

The distribution of tetanus in this country

is interesting from epidemiological, social, and racial points of view. Over one-half of the reported instances of the disease are listed as coming from the southern states, The area comprised of Arkansas, Louisiana, Mississippi, Alabama, Georgia and Florida produced roughly thirty-six percent of the cases of tetanus reported in the period 1951-54. Florida led the list with one hundread and eighty-three reported instances of tetanus.

Males were more frequently infected than were females, and over all the rates for non-whites (male and female) were five or six times higher than for whites. Even non-white females had a morbidity rate that was several times higher than that for white males. Children under one year of age had a mortality rate greater than any other age group, and a large majority of the deaths in this age group were neonatal deaths, i.e., under twenty-eight days of age. More than two-thirds of the neonatal deaths were in non-whites, occurring, as one would expect from the overall figures, primarily in the southern states. Umbilical tetanus undoubtedly was responsible for the great majority of deaths from tetanus in their age group. Other sources of tetanus were scattered. Postoperative tetanus is uncommon, chronic ulcers and old wounds are the site of certain of these infections, fireworks still contribute to the production of lockjaw, penetrating wounds play their role, drug addicts pass the spores from individual to individual through the agency of unsterilized needles and syringes, but injury, and generally minor injury, produces the majority of

the instances of tetanus which occur in the United States,

There are currently a large number of male adults immunized against tetanus in this country. Every individual who has entered the military forces of the United States since late in 1941 has been immunized against tetanus. That this immunization was highly effective is evidenced by the Army's World War II figures, in which twelve instances of tetanus with five deaths were recorded. In most of these patients, either immunization had been escaped or was only partially completed. When one considers that our troops were fighting in areas of the world which had a high incidence of tetanus, the demonstrated efficacy of immunization is most impressive. While an increasing number of children are being immunized each year, there is still room for a great deal of improvement in this respect,

Another very interesting facet of the problem of immunization against tetanus is the observation4,3 that a considerable number of the individuals who have been immunized have demonstrable amounts of tetanus antitoxin in their blood years later. Also it is well known that a booster dose given at any time subsequent to primary immunization will produce a brisk and rapid anamnestic reaction which is accompanied by a sharp rise in the titer of antitoxin in the blood. It is much more satisfactory to use this booster-dose method of protection in a previously immunized patient who has been injured, than to administer a prophylactic dose of tetanus antiwhich will produce delayed serum reactions in about one-quarter of

individuals, and death in 1 out of every 100,000 persons who receive it. One does not need to fear reactions when tetanus toxoid is administered properly.

The treatment of tetanus has not changed radically since World War II, with the possible exception that much more knowledge has been gained relative to measures which may be used for the control of spasm and convulsions. Sedatives, muscular relaxants, etc., have apparently been life-saving in a number of patients suffering from lockjaw.

Recently5, the use of a combination of heavy doses of chlorpromazine and small doses of a barbiturate given by constant intravenous infusion has been reported as being successful in controlling the tetanic convulsions, and bringing about recovery in seven patients suffering from tetanus. In five of the seven the disease was classified as "severe." This method of therapy appears to be promising, but further experience will be needed before its efficacy can be assessed with accuracy, and the incidence of toxicity from such heavy doses of chlorpromazine determined. It also should be mentioned. that once again (2), the value of tetanus antitoxin in the treatment of established tetanus has been questioned.

In conclusion, one must make it quite

clear that tetanus is one disease for which the physician has in his hands a cheap and easy method for its elimination. Let's not fail to immunize our own children, those of our patients, and our patients themselves against tetanus. Then neither they nor we will have to worry when an injury occurs,

The Doctor in the Drug Company

Recently, a friend asked me the following question: "Why do doctors go to work for drug companies?" In this particular instance my friend referred to an individual who was a mutual acquaintance. Yet, this was not the first time the question had been asked of me. The entrance of physician's into the pharmaceutical industry has always been a source of speculation to many doctors and lay people. I had given it considerable thought because more than twenty years ago I had considered entering the industry; some very old friends of mine are physicians employed by pharmaceutical companies.

Let's consider who the doctors in the industry are. They are graduates of Hopkins, Harvard, Duke, Wisconsin and other top schools. Many have been successful practitioners or clinical investigators. A number have been on the faculties of medical schools, Some have been professors.

Why did they enter the industry? I want to make it clear at the outset that money alone is rarely the reason for a doctor's acceptance of employment in a pharmaceutical company. When all is said and done about the money angle by practitioners and others, one has to realize that in this

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day and age the salaries of doctors employed by the companies are not in excess of what many of these physicians could make in the practice of medicine. And many of these salaries are definitely lower than the people who receive them are capable of earning in practice.

Since it is not money, what does motivate these physicians? Well, to begin with, life within a top-flight pharmaceutical company is exciting and stimulating. These companies spend hundreds of thousands, even millions of dollars on research, and most of the larger companies always have something "cooking." Biologists, physicists, chemists and other scientists are employed in pharmaceutical research, thus providing the possibilities of an environment of intellectual ferment and stimulation for the physician in the pharmaceutical industry. It's fun to be in such an environment and very satisfying to be identified with the early development of a life-saving or lifepromoting agent.

Most of the physicians I have known in the pharmaceutical industry are outgoing, dedicated individuals who are interested in and derive pleasure from doing something for humanity, their colleagues, their friends, and their companies. They are enthusiastic in demonstrating their new products to you, but by the same token they are quick to help you if you run into difficulties with one of their established products.

Some physicians have entered the industry because of a physical handicap for which a fairly well regulated life seemed indicated. The pharmaceutical industry provides positions having regular hours, positions of responsibility in which physicians can do a worthwhile job in medicine without jeopardizing their health.

While many physicians in the industry supervise or coordinate research programs, the number who are directly working in research fields is not too great. Despite this, it can be said that a number of very useful products in medicine have been developed by doctors working in the industry. Ephedrine, meprobamate and rauwolfia products are good examples of this.

Finally there is a small group of physicians associated with the industry whose fathers and grandfathers before them were pharmaceutical industrialists. This is especially true in certain companies that are family owned.

Thus, when all is said and done, doctors probably enter the pharmaceutical industry for the same reason that other doctors "go into" medicine, surgery teaching or research; because it interests them and offers a satisfying way of life.

Founders of Pharmaceutical Companies

Last summer, in the course of rereading Morris Fishbein's "History of
the American Medical Association," I
came across several references to the
early history of certain of our older
pharmaceutical companies, or to their
founders. What I read interested me so
much, that I wanted to know more about
the men who founded these companies.
I thought that the readers of MEDICAL
TIMES might share my interest, and so

I wrote to a number of our pharmaceutical companies, asking that they cooperate in such a historical enterprise.

I would like to report that the officers of all responded with good will. I must say I have been fascinated by these stores about the founders of these companies. They were all men who had drive and a vision. All faced adversity before success crowned their endeavors. Indeed, the history of these pioneers in developing what was essentially a new industry in our country, parallels that of the rise of developers of all great American enterprises, Pluck, skill, ingenuity, Yankee inventiveness, hard work, and a sense of dedication and of service to the physicians of this country and their patients marked the careers of these founders. They contributed generously to the welfare of the country as a whole, and many of them, or their heirs, are well known for their support of education, and especially medical education on research, in our country.

New Taxes on Doctors?

The Wall Street Journal (Jan. 22, 1958) carried an item which should be of great interest to doctors, dentists and lawyers. Taxing authorities looking around for new sources of revenue have under consideration in West Virginia and Kansas, a tax on professional people which would be the equivalent of the gross sale taxes which are placed on business. It is not difficult to visualize the problems which such a tax would create for doctors, dentists and lawyers. Your county and state medical, dental, and bar associations should be on the lookout for such legislation so that a solid professional front can be created against it.

Deaths from Fires and Explosions

"More than four fifths of the people who die as a result of fires and explosions sustain their injuries in and around the home. Factories, workshops, mines and quarries, and other industrial places account for only about 5 percent of the deaths. An even smaller proportion is attributable to conflagrations in public buildings, such as hospitals, schools, stores, and places of amusement. The remainder of the victims meet their death in various other places, including farms and resident institutions."

Statistical Bulletin of the Metropolitan Life Insurance Co., Vol. 38, P. 6, Nov., 1957

THE LONG AND SHORT OF IT

The Peripatetic Club

From time to time your Editor will report on meetings which he has attended.

Twenty-five years ago at a meeting of the Congress of Medicine in Washington D.C. a group of young physicians, all of whom enjoyed listening to the reporting of good scientific medical investigations, and good food, organized a medical dinner club which would be peripatetic on the Eastern seaboard. At the organizational meeting it was decided that the Club would have no rules or by laws, with one unwritten exception (and this had to be, because of the original membership of the group), namely that no papers dealing with electro-cardiography, or calcium and phosphorus metabolism could be presented at the annual meetings of the society. The Club meets once a year in Boston, New York, Philadelphia, Baltimore, or Bethesda. This report has to do with the meeting held in Boston on 31, January, and 1, February, this year.

The first day's meeting was held in the Academy of Arts and Sciences in Brookline, Massachusetts, in the library of the Brandegee house. This mansion which took a decade to build is about sixty years old, and of combined

From Your Editor's Reading

Italian and French architecture. The library was roughly sixty feet long, and half as wide. Fire places, surrounded with dark mahogany panelling occupied each end of the room. Over each fire place was a family portrait (all original furnishings appeared to have been left in the house), and the walls were lined with bookshelves, eleven high to a fifteen foot ceiling. The bookshelves were filled with beautiful tooled leather sets of the words leading authors. Really a fantastic collection. It was extraordinary to be so comfortable in the library chairs during a medical meeting. However, no one went to sleep. The program was too interesting.

The first paper dealing with electrolyte disturbances in primary Aldosteronism was presented by Arnold S. Relman and William B. Schwartz of the Boston University School of Medicine. Their observations showed that in this disease in which potassium is easily lost, the excretion of potassium ions by the renal tubules is definitely decreased, if there is a deficiency of sodium ions. A low sodium intake by patients suffering from this condition decreases the excretion of potassium and hence the danger of developing the low potassium syndrome.

The second paper, in which the findings of Jerome B. Block and Belton A. Burrows of Boston University Medical School were presented in a study entitled "Renal Function Studies with I-131 Diodrast," it was demonstrated that the use of radio active Diodrast by the intravenous route was useful in screening patients suspected of having unilateral renal disease. The authors made it clear, however, that at the present this test cannot replace the Howard test, or aortography in the diagnosis of unilateral renal disease.

The next paper was presented by Louis Weinstein and Te-Wen Chang of Tufts Medical School, and dealt with the "Mechanism of the Enhancement of Influenza Virus by Cortisone". These investigators demonstrated that Cortisone opens up a new route by which influenza virus can penetrate susceptible cells if Cortisone is added before infection takes place. In the discussions of this paper, it was pointed out that a very severe and often fatal form of disseminated chicken pox may occur in children who are receiving Cortisone, and who develop this viral infection. The fourth paper by Charles V. Robinson and Bertram Selverstone of Tufts Medical School dealt with the use of P-32, and an ingenious counter, to localize certain types of brain tumors,

Next, John Stanbury of the Massachusetts General Hospital presented data which showed that individuals suffering from familial-congenital goiter possess a tissue-wide defect, which prevents the de-iodination of the hormonal precursors of thyroxin, thus producing a lack of iodine and hence goiter. The sixth paper by Drs. Maffly and Leaf of the M.G.H. dealt with studies of the melting points of tissues, as such, are releated to intracellular tonicity.

Dr. C. Miller Fisher of the Massachusetts General Hospital then reported on his studies of the pathology of cerebral Buerger's Disease. He showed very definitely that the prime lesion was not a thromboangiitis, but rather an occlusion of the internal carotid artery due to an atherosclerotic process, and that, the "white" blood vessels and the fibroblastic proliferation within the blood vessels result from the cessation of blood flow in these arteries. In twelve of the author's fifteen cases, severe gene-

ralized atherosclerosis was found, and eight of these patients had occlusive disease of the extremities. These observations quite change our concept of the causation of this type of vascular disease.

In the next presentation, Dr. Benjamin A. Barnes presented a technical study on magnesium balance which showed that under certain conditions the kidney can conserve magnesium for body.

The last three papers of the first day's meeting were presented by physicians from the Peter Brent Brigham Hospital. In the first Dr. Louis Dexter presented interesting clinical and laboratory data on Aortis Stenosis. He pointed out that the classical text book picture of this disease is rarely seen. Roentgenograms of the heart are not especially diagnostic. unless calcified valves can be seen. In all severe instances of this disease. Dr. Dexter found calcified valves, as well as elevated systolic and diastolic pressures in the left ventricle. The only treatment which may help these patients is surgery, in which the case fatality rate from circumstances attending the operation is five per cent in his experience.

In a very interesting and provocative presentation, Dr. Eugene D. Robin postulated that sleep is the normal state for man, and that physiologists should really concern themselves with the factors governing waking, because the waking state is abnormal. He pointed out that sleep was a period of great metabolic activity which had been little explored, and that we really don't know much about the vital functioning of the body during sleep, even though we occupy one third of our lives with sleep. He reported upon interesting findings in normal human beings and in patients suffering from emphysema which were concerned

with rises in lung alveolar CO2 tension, decreases in the sensitivity of the respiratory center to CO2, the fall of the pH of the blood, and the disturbances of respiration which occur shortly after one falls to sleep. He also pointed out our lack of knowledge concerning etiology of paroxysmal nocturnal hemoglobinuria, and then described the wide variations which exist in the level of the blood sugar during sleep, even to the point of severe hypoglycemia. He stated that physiological studies indicate that an average of eight hours of sleep is desirable. The final paper of the afternoon was presented by Dr. Albert E. Renold who discussed his fundamental observations on the effect of insulin on adipose tissue.

The next morning the Club met in the new Dorrance Building at the Massachusetts Institute of Technology, where its members listened to fundamental and highly scientific discussions which were presented by the Department of Biology. Among the highlights of this session were first, the presentation by Dr. Bernard S. Gould of the role of ascorbic acid in collagen formation. Using normal and scorbutic guinea pigs, he definitely showed that collagen formation was markedly retarded in experimental wounds, which had been produced in guinea pigs which were deficient in Vitamin C. Next, Patrick C. Wall who has developed an electrode 0.5 microns in diameter, discussed the findings relative to afferent and efferent nerve impulses when such electrodes were planted in nerve tissue on each side of a synapse. Then, Dr. Cyrus Levinthal presented data as to how genetic material in viral particles reduplicates itself, or in certain recombinations produce mutants. And finally, Dr. Cecil E. Hall

showed the group beautiful electronic microscopic data on the molecular structure of nucleic acids derived from various sources.

Enhanced Effectiveness of Ganglion-Blocking Agents in Hypertensive Patients During Administration of a Saluretic Agent (Chlorothiazide)

"It is known that surgical sympathectomy enhances the depressor effect of small losses of blood and ganglionblocking drugs have a similar effect. Hence, while other mechanisms such as depletion of sodium from ganglia or vessel walls-may enter into the antihypertensive effect of intermittent courses of chlorothiazide, we believe that the effect is primarily haemodynamic. Presumably, decreased plasmavolume decreases venous return and lowers blood-pressure, particularly in the standing position. That this is the case is further suggested by the effect of partial sodium repletion, which may not always restore to the patient all the sodium he has lost, but does restore plasma-volume and also the prediuretic large requirement for ganglion-blocking drugs. Still, assuming this to be the case, we would have expected definite enhancement of the depressor effect of 'bloodless phlebotomy" during sodium depletion, and we are unable to explain the irregularity of our findings in this regard. The possibility of an intrinsic anit-pressor effect of chlorothiazide has not been excluded, but seems unlikely.

As we have already remarked, it would be premature to suggest that chlorothiazide will prove a useful adjunct in the long-term treatment of hypertensive patients. The present small experience suggests that this may be so.

Our former experience with this agent in a large number of patients, to whom it was given as a diuretic, has not demonstrated that it is dangerous or causes untoward effects."

"Preliminary Communication", *The Lancet*, Vol. II for 1957, No. 7000, P. 832, Oct. 26, 1957

Effect of Chlorothiazide on the Edema of Cirrhosis, Nephrosis, Congestive Heart Failure and Chronic Renal Insufficiency

"There has been a continuing need for a safe, potent, and orally effective diuretic agent in the management of edema due to renal salt retention. This need has been most acute in the area of medical renal disease, in which the mercurial diuretics seem to possess specific disadvantages. Many experienced clinicians consider active renal disease a prime contraindication to the use of mercurial diuretics. Investigators have noted that a disproportionately high percentage of sudden deaths from intravenously administered mercurial diuretics occurred in the nephrotic syndrome. In a number of patients, we have observed the onset of severe oliguria after repeated mercurial injections. The majority have been patients with the nephotic syndrome of diabetic glomerulosclerosis. We have also noted proteinuria and hematuria after mercurial injection in a patient with disseminated lupus erythematosus and neither prior nor subsequent evidence of active renal involvement. Reactions to mercurial diuretics have been the subject of a recent specific report. They have also received comment from other authors in the same symposium and need not be reviewed here. Most therapeutic enthusiasts, aware of the generally

safe record of mercurial diuretics in uncomplicated congestive heart failure, do not heed the warnings concerning their use in active renal disease. They are likely to reply, "What else are we to use?"

Acetazolamide has provided only a partial answer to that question. It has not proved to be a striking diuretic agent clinically and becomes less effective on repetition as the serum bicarbonate is depleted. The combination of reduced filtration rate and metabolic acidosis, often present in patients with renal disease, sharply limits the value of acetazolamide in this area.

We believe that the experience with chlorothiazide described above provides a significantly more effective answer to the question. Administration of chlorothiazide in a dose of 5 mg. per kilogram of body weight produced significantly negative balances of sodium, chloride and water in edematous patients with cirrhosis, nephrotic syndrome and congestive heart failure. Significant potassium loss was also demonstrated and can be quite marked in an occasional patient with hyponatremia or a high-potassium diet. The diuretic response was prompt and began in a few hours from ingestion. In many cases there appeared to be an increase in salt excretion on the second and third days of administration, suggesting that intermittent dosage might be more effective in three-day blocks than on an interrupted one-day schedule. No apparent benefit was derived from the use of higher dose levels in our patients. Dose schedules below 5 mg. per kilogram of body weight every six hours were not adequately explored in this series. In patients with normal or only moderately reduced filtration rates. chlorothiazide was capable of counter-

acting the salt retention of therapeutic levels of adrenal steroids. This is a particularly valuable attribute in the management of the nephrotic syndrome. Even in the most responsive cases of nephrotic syndrome, twelve to sixteen days of steroid administration are usually required before protein excretion is significantly reduced and before a steroid or withdrawal diuresis can be expected. During this time salt excretions of less than 5 milliequiv. a day are commonplace. Without extremely rigid salt restriction, the patient is apt to accumulate additional edema and to lose confidence in both the therapy and the physician. Chlorothiazide was able to effect massive diuresis in nephrotic patients not receiving ACTH or steroids and to produce significant weight losses even in the presence of a steroid-induced anti-diuresis. The patient with amyloid nephrosis who originally had anasarca and did not respond to chlorothiazide when receiving ACTH had a subsequent diuresis with steroids and albumin. For the past six months she has been maintained within a 4.5-kg. (10 pound) weight range by the simple expedient of giving chlorothiazide whenever 2.3 kg. (5 pounds) of edema has accumulated.

No urines became alkaline in this series and there was no evidence of significant carbonic anyhdrase inhibition as the mechanism of action of chlorothiazide. In some patients the chloruresis seemed to dominate the response. This suggested that chlorothiazide might be the ideal agent for the management of renal hyperchloremic acidosis. This was tested in 1 patient with ureterosigmoid anastomoses who experienced a diuresis on the first day of treatment but whose clinical course was

too complicated to permit analysis of the data. After the reported studies, several patients were given short courses of acetazolamide in combination with There was enhancechlorothiazide. ment of natriuresis without an increment chloruresis, suggesting separate mechanisms for these drugs. A few patients were given mercurial diuretics, with an apparent additive effect. This suggests the therapeutic use of double or triple combinations after more is known concerning chlorothiazide itself. One patient with the Kimmelstiel-Wilson syndrome and acute exacerbation of glaucoma that had become refractory to acetazolamide experienced a significant reduction in intra-ocular tension following chlorothiazide. This suggests an additional area for investigation of this drug. Several patients with hypertension had reversal of symptoms or an ability to decrease the dosage of antihypertensive drug. This may or may not have been due to depletion of body sodium and warrants extensive investigation. One child with acute glomerulonephritis had a diuresis, weight loss and reduction in blood pressure on chlorothiazide, with no apparent toxic effect.

Chlorothiazide was unable to produce significant diuresis in the presence of marked reduction of glomerular filtration. Some patients did increase the concentration of salt in the urine, suggesting a possible value in long-term administration. There is still need, however, for a potent agent that can produce tubular blockade of salt reabsorption in the presence of a reduced filtered load.

In addition to these broad therapeutic applications, chlorothiazide represents a new challenge to the theoretical understanding of the tubular reabsorption of chloride and sodium. Its apparent maximal rather than dose-responsive effect, and the fact that it appears additive to, rather than competitive with, known diuretic agents, will invite speculation about the specificity of its renal tubular blockade and about whether such mechanisms are operative elsewhere in the body. Further physiologic data are necessary to make such speculation significant.

We believe that chlorothiazide represents a major achievement in the search for new potent diuretic agents. It should have broad clinical application and may advance understanding of the mechanism of salt and water reabsorption in the renal tubule."

By George E. Schreiner and H. Allan Bloomer

The New England Journal of Medicine, Vol. 257, No. 21, Nov. 21, 1957, Pp. 1021-22

New Drugs for Hypertension, with Special Reference to Chlorothiazide

"For years it has been observed in this clinic that the action of many hypotensive agents, particularly the ganglionic-blocking drugs, may be affected markedly by the state of electrolyte and water balance in the patient. In a few words, clinical states associated with increased body fluid or sodium content were found to produce a relative lack of responsiveness to hypotensive agents, whereas those associated with a depletion of body fluid and sodium were attended by markedly increased sensitivity to hypotensive drugs. As a result of these observations efforts were made. whenever actual or possible congestive heart failure was found in a hypertensive patient, to use an effective diuretic first and thus to correct the abnormal retention of water and electrolyte before an attempt was made to use an antihypertensive agent. This led to the trial of a number of different diuretics as adjuncts in the treatment of hypertension.

Recently, clinical trials of one of the newer orally effective diuretics carried on simultaneously but independently in this clinic and that of a former associate, Dr. Edward D. Freis, of Washington, D. C., yielded the interesting finding that this agent, chlorothiazide (diuril), is of signal benefit particularly as an adjunct to other hypotensive drug treatment. Further careful studies in this clinic have convinced Dr. Hollander and me that chlorothiazide, in addition to being an adjunct, is of itself definitely hypotensive. However, we agree with Dr. Freis that the drug is more effective as a hypotensive agent when given in combination with other drugs than it is alone, but that one can frequently reduce or even omit the dosages of some of the less desirable hypotensive agents when chlorothiazide is used as an adjunct.

Chlorothiazide alone had a definite hypotensive effect in 9 of 17 hypertensive patients. The reductions in blood pressure in the group that responded ranged from 20 systolic, 10 diastolic, to 60 systolic, 30 diastolic, and for the whole group averaged 21 systolic, 12 diastolic. Chlorothiazide added to other antihypertensive drugs reduced the blood pressure in 19 of 23 hypertensive patients. In those who responded the reductions in blood pressure ranged from 20 systolic, 10 diastolic, to 60 systolic, 30 diastolic, and for the whole group averaged 32 systolic, 21 diastolic.

All of 11 hypertensive subjects in whom splanchnicectomy had been performed had a striking blood-pressure response to oral administration of chlorothiazide. The average reduction in blood pressure in this group was 59 systolic, 28 diastolic, and it ranged from 20 systolic, 20 diastolic, to 120 systolic, 60 diastolic. In this connection it is interesting that hypertensive subjects pretreated with ganglionic-blocking agents appeared to be more sensitive to the hypotensive action of chlorothiazide than those pretreated with other types of antihypertensive drugs.

Most of the patients who responded to chlorothiazide were not in congestive heart failure, did not lose weight and were taking a regular salt diet. However, dietary restriction of salt appeared to increase markedly the antihypertensive effect of chlorothiazide in some patients. On the other hand, chlorothiazide added to a regimen of other antihypertensive agents was more hypotensive than simple salt restriction added to the same regimen.

Thus, chlorothiazide, the most recent addition to the medicinal armamentarium against hypertension, is in many ways the most interesting, not only because it is very effective but also because it acts in an entirely different way from all other hypotensive drugs. Certainly, part of its action is related to its very potent diuretic effect. However, I am convinced that chlorothiazide has unique hypotensive properties in addition to its diuretic effect. The evidence for this is as follows: it is not hypotensive (or markedly diuretic) in normotensive control subjects; it is not hypotensive in normotensive patients with congestive heart failure, in whom it is markedly diuretic; it is hypotensive in

both compensated and decompensated hypertensive patients (in the former without congestive heart failure, it is not markedly diuretic, whereas in the latter in congestive heart failure, it is markedly diuretic); the administration of chlorothiazide is a more rapid and more potent hypotensive procedure than dietary restriction of salt; and other potent diuretic agents such as oral doses of chlorazinal (Daquin) or of mercurial preparations are not as hypotensive, if hypotensive at all, in hypertensive patients without heart failure (however, they may be markedly hypotensive in hypertensive subjects with heart failure, particularly during the phase of diuresis or when active salt depletion occurs). It is unlikely that the hypotensive effect of chlorothiazide in such patients is due solely to salt depletion since a fall in blood pressure may occur within five hours of administration of the drug and without a significant change in weight or serum sodium content. It is my opinion and that of both Dr. Hollander and Dr. Freis that chlorothiazide represents a distinct advance in the fascinating search for effective drug treatment for arterial hypertension."

By Robert W. Wilkins

The New England Journal of Medicine, Vol. 257, No. 21, Nov. 21, 1957, Pp. 1029-30

Diuretic Therapy

"Chlorothiazide ('saluric') is the latest and most potent oral diuretic to be developed. Chemically it is a benzothiadiazine dioxide (6-chloro-7 sulphamyl-1, 2, 4—benzothiadiazine-1, 1—dioxide), which was first synthesized by F. C. Novello and J. M. Sprague. This chemical structure, with a free SO₂NH₂ group, suggested its action would be

that of a carbonic anhydrase inhibitor, and this effect is demonstrable in vitro and to some extent in its diuretic action in the dog. In man, however, it produces diuresis by enhancing the excretion of chloride, which is accompanied by an almost equimolar loss of sodium. Thus it resembles organomercurials in its action. Chlorothiazide induces within two hours a diuresis which is maximum in 4-8 hours and wanes in 10-12 hours. The maximum effective dosage range lies between 1.0 and 2.0 g., though as little as 0.5 g. is active, and larger doses have been given without the development of toxic effects; indeed, a striking finding is the apparent absence of toxicity at any dosage level. Chlorothiazide is certainly more potent than other oral diuretics, and in its power to enhance sodium excretion it is equal to organo-mercurials given parenterally. Thus 1 g. chlorothiazide is equivalent to 1 ml. meralluride intramuscularly, and 0.7 g to 1 ml. mercaptomerin subcutaneously. About 0.5 g. chlorothiazide produces a loss of sodium equal to that following four tablets of chlormerodin orally, and this dose is also twice as potent as the maximum effective dose of acetazolamide. Chlorothiazide is continually effective and is most potent when given in two divided doses at 12-hour intervals.

Chlorothiazide and mersalyl given together have an addictive effect which may be of value in severe refractory cases of cardiac failure. Also of importance is the finding that chlorothiazide is often effective in patients who fail to respond to mersalyl. In severe cases of oedema the effective dose is 1 g. twice daily, and in less severely ill patients and those who show a rapid improvement 1 to 1.5 g. daily in divided doses is

sufficient. In mild cases 0.5 g. daily may be adequate, and for maintenance therapy 0.5 to 1.5 g, given on only three to four consecutive days each week is usually sufficient. Like other potent diuretics, chlorothiazide increases the urinary excretion of potassium, and if given continuously over a prolonged period may induce hypokalaemia. This is particularly likely to happen in chronically ill patients taking daily doses of 2 g. Under these circumstances a supplement of potassium chloride in enteric-coated capsules is recommended. The exact amount depends on the individual patient and how well he is eating, but the range lies within 2 to 6 g. potassium chloride daily. In patients eating well who respond quickly and are taking 1.5 g. chlorothiazide or less daily, or are on intermittent maintenance therapy, a potassium supplement is rarely necessary."

Editorial

British Medical Journal, No. 5057, p. 1356, Dec. 7, 1957

Life Expectancy, 1900-1955

"The estimated average length of life in the United States has increased dramatically during the first half of the 20th century. As can be seen from Table I, life expectancy at birth has increased more than 22 years, a true gift of life, for the population as a whole, a rise of almost 47%. For women, who, on the average, outlived men by two years at the turn of the century, life expectancy increased more than 50% to make the current difference more than six years.

These figures are, of course, heavily weighted by the experience of the white population which accounts for 89% of the total and tends to hide the even

TABLE I ESTIMATED AVERAGE

AGE		1955	INCREASE	
AGE	IM IKS.	IN TRS.	IM TRS.	IM 70
Total	. 47.3	69.5	22.2	46.9
Male	. 45.3	66.7	20.4	44.1
Female	. 48.3	72.9	24.6	50.9
White	. 47.6	70.2	22.6	47.5
Male	. 46.6	67.3	20.7	44.4
Female	48.7	73.6	24.9	51.1
Nonwhite	. 33.0	63.2	30.2	91.5
Male	. 32.5	61.2	28.7	88.3
Female	. 33.5	65.9	32.4	96.7

TABLE II AVERAGE REMAINING LIFETIME—WHITE MALES

AGE					1955 IN YRS.							
0 .									48.2	67.3	19.1	39.6
1.			۰						54.6	68.2	13.6	24.9
15			۰	٠					46.2	54.8	8.6	18.6
25			0			0	0		38.5	45.6	7.1	18.4
45								,	24.2	27.3	3.1	12.8
65					٠		۰		11.5	12.9	1.4	12.2
75									6.8	8.0	1.2	17.6

TABLE III AVERAGE REMAINING LIFETIME—WHITE FEMALES

AGE			INCREASE IN YRS. IN %	
0	51.1	73.6	22.5	44.0
1	56.4	74.2	17.8	31.6
15	47.8	60.7	12.9	27.0
25	40.1	51.0	10.9	27.2
45	25.5	32.1	6.6	25.9
65	. 12.2	15.5	3.3	27.0
75	. 7.3	9.2	1.9	26.0

greater improvement among the nonwhites. This 11% of our people showed almost a doubling of life expectancy, a remarkable closing up of the gap evident in 1900.

Tables 2 and 3 show, however, that this increase in life expectancy has been far from uniform among the various age groups. While life expectancy for the people already in the higher age groups has also increased, the most significant changes, due primarily to medical progress, have occurred in infancy, childhood, and early 'teens'.

Most people are aware of the increasing number and proportion of older persons in our present population. When medical and related research begin to bring further increases in the life expectancy of our older age groups, the upward trend will be accelerated. The implications for persons interested in programs in the field of aging are enormous."

Editorial

Aging, No. 36, Oct. 1957 P. 4

The Immediate Treatment of Cerebral Embolism

"Sixty consecutive patients with cerebral embolism, out of a total of 575 cases of acute apoplexy, have been studied.

2. They were divided into four groups: (1) 1952: 16 patients treated by repeated stellate block; (2) 1953: 18 patients as controls; (3) 1954: 15 patients treated by one stellate block followed by 14 days of anticoagulants; (4) 1955: 11 patients treated by anticoagulants.

3. The dangers of anticoagulants in this condition are discussed, and present-day opinions reviewed. In the present series no ill effects were demonstrated in the infarcted area of brain at necropsy in fatal cases, but one elderly patient died of uraemia as a result of bilateral renal hemorrhage.

 It is suggested that patients over 65 years of age, and patients with hypertension, should receive a modified course of anticoagulants.

5. The results have been analyzed and tabulated, and show that at the end of three months (1) there was no significant difference between the control group of patients (1953) and the patients treated by repeated stellate block (1952) (2) there was no significant difference between the group of patients treated by anticoagulants and stellate block (1954) and those treated by anticoagulants alone (1955); (3) there was a significant difference between patients who had received anticoagulants (1954 and 1955) and those who had not (1952 and 1953), mortality being lower and the number of recoveries increased.

6. It appears that anticoagulant therapy, if properly and carefully given, is without danger and of advantage in treating cerebral embolism, and that stellate-ganglion block has no effect on the final outcome."

by A. Barham Carter

The Quarterly Journal of Medicine, Vol. XXVI, No. 103, P. 347, July 1957

The Special Problem of Rheumatic Heart Disease in Pregnant Women

"Now let us consider the application of these observations to the management of heart disease in patients. mitral stenosis is the most frequent cardiac problem observed in pregnant women, let us consider specifically how these changes of the circulation and respiration during pregnancy can adversely affect a patient with mitral stenosis. I remind you, first, that an increase in the cardiac output of a patient with mitral stenosis can be achieved only by an increase in the pressure gradient across the mitral valve, that is, by an increase in the left atrial pressure. Such an increase in pressure leads inevitably to a rise in pressure in the pulmonary veins and in the pulmonary capillaries.

Second, an accelerated heart rate is

known to be a factor which may precipitate pulmonary congestion in patients with mitral stenosis. An increase in heart rate leads to diminution of available diastolic time, that is, to a diminution of the time available for blood to flow through the mitral valve. Thus, when the rate increases, if there is to be a maintenance of blood flow through the mitral valve, there must be a further rise in left atrial pressure.

Third, an increase in total blood volume can, through various mechanisms, lead to an increase in the pressure level in the left atrium. The changes in cardiac output, in heart rate, and in blood volume are to a considerable extent inseparable parts of pregnancy. They may be somewhat modified or limited. They can seldom be abolished and probably ought not to be abolished. They must, therefore, be understood and in part accepted. They mean that the pregnant woman with mitral stenosis, because she is pregnant, has a higher left atrial pressure. Moreover, this elevated left atrial pressure exists in a woman who because she is pregnant has an elevated ventilation volume and is, therefore, that much nearer to dyspnea.

Knowing these facts about the changes which pregnancy induces in the maternal organisms and knowing something about the dangers that these changes may present to the woman with heart disease, there are three varieties of approach to the question of management: 1. The problem may be avoided by terminating the pregnancy. This is not a good solution. The fetal mortality is 100%. There is some risk to the mother even early in pregnancy. Psychologically the effects are generally bad, and the procedure is often quite unacceptable to the patient. Happily, as our own experi-

ence of heart disease has accumulated. the number and percent of interruptions have diminished, and this procedure is now considered only rarely indicated. In the last 18 months of the period of our experience under scrutiny, interruption was advised only once. 2. Since the problem of mitral stenosis is essentially a mechanical one, the suggestion is frequently made that a good principle of management is to modify the stenosis by surgery during pregnancy. We believe that this also is not a good solution, partly because our experience has shown that it is almost never necessarv and partly because we are aware of certain special risks of cardiac surgery in pregnant women. There may well be rare and special situations which indicate the use of cardiac surgery during pregnancy, but these have not been encountered in our experience and will seldom be encountered in a well-organized medical clinic. Our policy is to postpone cardiac surgery until pregnancy has been completed. 3. The third method of management is not dramatic, but it is highly sensible and highly success-It is the method of conservative medical management.

According to our experience the ability of a patient with heart disease to go successfully through the dangers of pregnancy, delivery, and the puerperium depends on two factors: (1) the capacity of the heart for work and (2) the extent of the total demand for work which is placed upon the heart during pregnancy.

It is necessary to have a clear concept of what is meant by the total demand on the circulation. This total demand includes the cardiac work necessary to sustain life and the cardiac load imposed by unusual activity, by emotional stress, by illness, by overweight, by lack of sleep and by many other factors. Pregnancy is only one segment of the total load. In the famous case of the camel's back it was the total load that was important. The last straw was significant only because it brought the total burden to the critical and breaking point. The first principle, then, of managing the combination of pregnancy and heart disease is to make a place in the patient's cardiac budget for the expenditures of pregnancy by removing enough other burdens from the total load to compensate for the burden of pregnancy.

Some examples of burdens that are to some degree avoidable or removable are as follows: physical activity, emotional stress, ectopic rhythms with tachycardia, anemia, obesity, infections, hyperthyroidism, infusions or transfusions, and variations in sodium intake or retention. Most of the activity of the doctor in caring for pregnant women with heart disease has to do with the control of such factors. It is true that the physician can to some degree minimize the burden of pregnancy itself."

By C. Sidney Burwell, M.D.
A.M.A. Archives of Internal Medicine,
Vol. 101, No. 1, Pp. 63, 64, Jan., 1958

Digitalis Intoxication

"During a recent period of 27 months, the authors have observed 10 cases illustrating (a) digitalis intoxication, (b) at least twofold digitalization without symptoms or signs, (c) manifestations compatible either with toxic effects of digitalis or with specific or potentiating effects of underlying heart disease or associated illness, and (d) the problem of differentiating similar effects of in-

toxication with multiple cardioactive medications. Three patients died, the digitalis being a primary or contributing cause of death. This experience permits examination of circumstances under which overdosage occurs. It emphasizes that clinical symptoms and signs, as well as alteration in cardiac rhythm and other electrocardiographic manifestations, may differ in incidence and in character from those which might be expected in an overdigitalized adult cardiac population. As therapeutic advances enhance the survival of pediatric cardiac patients, the pediatrician may seek more familiarity with these differences and with the effects of pediatric disease, extracardiac as well as cardiac, on the manifestations of excessive digitalization.

In summary, clinical and electrocardiographic manifestations were not related to the size of the overdose. Two examples of probable digitalis intoxication occurred in children who received digitalis not in excess of maximum therapeutic doses commonly employed. The frequent occurrence of congestive heart failure as a manifestation of digitalis intoxication in early life emphasizes the need to consider this cause in the differential diagnosis of cardiac decompensation. Dehydration is cited as a possible factor contributing to the occurrence of digitalis poisoning or resulting from it, aggravating the intoxication. A wide variety of electrocardiographic disturbances in rhythm and condition was demonstrated. First degree A-V block occurred in half the cases. Disturbances in A-V conduction and supraventricular arrhythmias were much commoner than abnormalities in ventricular conduction or rhythm. Ventricular arrhythmia was limited to

the fatal cases, with one exception.

Digitalis therapy in infants and young children requires particular caution from all concerned. Whenever possible, the opportunity for error should be minimized by the use of standardized products, familiar to both physician and pharmacist."

By Howard A. Joos and John L. Johnson A.M.A. Journal of Diseases of Children, Vol. 94, No. 5, Pp. 548-49, Nov., 1957

A Reassessment of the Processing of Infant Formulas

"Each year the mothers of approximately 3,000,000 infants spend from one-half to one hour daily for several months preparing and processing infant formula, nursing bottles, and nipples. In most instances physicians recommend making a new supply of formula each day and disinfecting by either the 'terminal heating' or 'aseptic' method. The 'terminal heating' method consists of measuring and mixing the various ingredients in clean but not sterilized equipment and then heating the assembled formula units for 25 minutes in boiling water. With the 'aseptic' method the equipment and mix-mixture are boiled separately, and the milk is then added to the clean bottles with use of aseptic technique.

Although there is a comparatively extensive literature regarding the methods of processing of infant formulas, almost all of it concerns the preparation of such formulas for use in hospital nurseries. None of the reports discuss the length of time that formulas may be stored before using nor the various precautions that must be followed by mothers in order to insure safe formu-

las for their infants.

We have recently reassessed the methods of formula-making and heating as practiced by mothers. Tests were made of the efficacy of the two standard methods of heat treatment on uninoculated regular formulas and on formulas inoculated with substantial numbers of several test organisms, including Escherichia coli. Staphylococcus pyogenes Beta-hemolytic). Hemophilus influensae. Pneumococcus, and Bacillus subtilis. The effect of preliminary washing of equipment, storage of heated formulas for varying periods of time, and of incubation at room temperature and at 98.6 F was also determined.

Summary and Conclusions 1. The 'terminal' method of heating is the safest, most convenient, and most rapid means of producing artificial milk feeding for infants. However, its use should be accompanied by thorough cleaning of equipment, scrupulous cleanliness throughout the preliminary preparation of the formula, rapid cooling of formula as soon as heating is completed, and proper refrigeration. Any departure from the usually recommended procedure for formula preparation may be attended by the risk that the formula will become grossly contaminated.

There is no practical method of formula production which can assure sterility continuously in every bottle of formula. Certain organisms (particularly spore-forming bacteria) may survive regardless of the method used. The term 'terminal sterilization' as applied to the usual home methods of formula preparation is a misnomer, since formulas may not be sterile after terminal heating. 3. The 'aseptic' method of heating, although theoretically safe if carried out correctly, has the hazard that breaks in

technique may occur so that pathogenic contamination may occur.

 Unopened terminally-heated formula, when properly prepared and stored at a temperature of 40 F, remains biologically safe for at least three days.

5. Keeping terminally-heated formula at room (68 to 75 F) or incubator (98.6 F) temperatures for more than six hours results in gross contamination of the formula by bacteria which had been dormant in the milk-mixture.

6. Although it is common practice in the home to prepare the required formula every day, our experiments would indicate that properly cleaned, prepared, cooled, and stored terminally-heated formula is bacteriologically safe for at least two or three days. A new supply of formula need not be made every day." By Henry K. Silver

and Mildred D. Fousek

A.M.A. Diseases of Children Vol. 94,

Aspects of the Suicide Problem

No. 5, Pp. 564-65, Nov., 1957

"The sexes differ in the relative frequency with which they use various means to commit suicide. . . . More than half of the white males who die by their own hand choose firearms as the means. Hanging and strangulation account for an additional one fifth, and poisoning for almost as large a proportion. All the other means—including drowning, the use of cutting and piercing instruments, jumping from high places—were together responsible for no more than one tenth of the suicides among the males.

Among females, however, poisoning is the most common means of suicide, being used in one out of every three cases. The barbiturates and other soporific substances outranked the other poisons, accounting for nearly 15 percent of all suicides among females, compared with less than 3 percent of the total among males. Hanging and firearms, next in order, each were chosen in nearly one quarter of the cases.

The relative frequency of suicide varies markedly with marital status, being lowest for the married, somewhat higher for the single, and highest for the widowed and the divorced. 1949-51, the latest data available on this point, the age-adjusted suicide rate among white males, aged 20-74 years, ranged slightly over 20 per 100,000 for the married to 80 per 100,000 among the divorced. The rate for single men was a little more than twice that for the married; the widowed had a suicide rate more than 31/2 times and the divorced nearly four times that for the married. Among white females the disparity in the frequency of suicide between the married and the unmarried was less pronounced, the rates ranging from 6.6 per 100,000 for the married to 19.2 for the divorced.

In general, the suicide rate in our country is lowest in the South and highest in the West. In 1955 the rate varied from 7.9 per 100,000 in the East South Central region to 12.3 in the Mountain States and 14.9 in the Pacific region. The variation is wider when individual States are considered, the suicide rate in 1955 ranging from 6.0 per 100,000 in Mississippi to 26.8 in Nevada.

Suicide, despite its reduced frequency in recent years, continues to be a major cause of death. In 1956 somewhat over 16,000 people in the U.S. were reported to have died by their own hand.

Statistical Bulletin of the Metropolitan Life Insurance Co., Vol. 38, Pp. 9-10, Nov., 1957

Tumors of the Nervous System

WILLIAM R. CHAMBERS, M.D. Atlanta, Georgia

It may surprise many practitioners of medicine to learn that it is common knowledge among neurologists and neuro surgeons that many tumors of the nervous system may cause, or be accompanied by, headache, stiff neck, and elevation of the spinal fluid cell count, thus simulating meningitis. Infection in such cases does not co-exist. Brown and Peyton1 were able to collect cases of glioma, angioma, aneurysm, cholesteatoma, brain abscess, and metastatic tumors which produced this symptom complex. Henderson and de Gutierrez-Mahoney2 found pleocytosis in the spinal fluid in 13 of 43 patients sufferfrom glioblastoma multiforme. Brown and Peyton¹ presented three instances of their own, a dermoid cyst, a glioblastoma, and a cerebral varix, in all three of which an original diagnosis of meningitis was made.

Two patients of the author's will be described in which a diagnosis of meningitis at first seemed unquestionable.

Case 1: V.H., a young housewife in her twenties, began gradually to have headache, meningismus, vomiting, and fever up to 101² degrees. She was taken to her local hospital where her spinal fluid was shown to contain 1000 W.B.C. per cu. mm. with 70% polys. The protein was 150 mg.%, and the sugar 50 mg.%. There was no history of head injury or acute infectious process. Cultures of the spinal fluid were negative. She showed a good response to penicillin, and after two weeks was discharged.

Within a short time she was re-admitted because of drowsiness, listlessness, headache and meningismus. There was now some slight blurring of the disc edges. The cell count of the spinal fluid was now 5000, with 100% polys. Again, cultures, smears, and virus studies were negative. A brain abscess was suspected, and neurosurgical consultation called.

A ventriculogram showed displacement of the whole ventricular system to the right. A carotid angiogram confirmed this finding. No fracture was seen. The cells of the spinal fluid at this time were 450 per cu. mm., with 44% polys.

Craniotomy some six weeks after onset revealed a large chronic extradural hematoma, tough and organized, cover-

Simulating Meningitis

ing the whole parietal lobe, and extending over some of the occipital area. It was about 1" thick. There was no evidence of infection.

The patient, who had been very slow, mentally, and disoriented previous to operation, now made rapid and full recovery.

Case II: H.H., a 34 year old male was admitted to the hospital because of pain in the hips later spreading down the back of both legs. He then developed a stiff and painful neck. His temperature was hectic in type, showing daily elevations to 103°. There was tenderness over the right costo-vertebral angle, and positive Kernig and Brudzinski. There were no sensory or motor changes detected. There was a history of kidney infection, but excretory urograms were within normal limits. Chest films and films of the spine showed nothing remarkable. The W.B.C. was 15000 with 88% polys. The spinal fluid showed 150 cells, 80% polys, and a sugar of 85 mg.%.

A tentative diagnosis of poliomyelitis was entertained by the attending physician. Over a three week period after being treated with hot packs and penicillin, the patient improved sufficiently to be discharged home.

One month later he returned with



frank signs of meningitis. The pain in the hips and down the legs had returned. Kernig and Brudzinski signs were again present. The spinal fluid now showed a cell count of 11,800, 95% polys, and the total protein was 368 mg.%. The spinal fluid culture was repeatedly negative. Tuberculin tests were negative.

The patient began to show some mental duliness and early papilloedema appeared. Again the patient improved while being treated with antibiotics and was discharged.

One month later the patient was admitted to the hospital for the third time. A myelogram of the whole spinal canal was interpreted as negative.

An exploration of the posterior fossa revealed no tumor or abscess but there was considerable pressure. Cultures were negative. The patient improved and went home.

Finally, 3½ months after the first admission the patient was readmitted and expired. Autopsy revealed a chronic extradural abscess of the cervical spine.

That myelography can be completely negative in the presence of extradural spinal abscess has been described in another paper by the author.²

Spinal fluid pleocytosis and an original diagnosis of poliomyelitis is not uncommon in spinal cord tumors in children. As Brown and Peyton remark, "Failure to investigate a patient thoroughly for the specific cause of the meningeal involvement may well result in the neglect of a neurological condition that obviously cannot respond to chemotherapy. This should particularly be kept in mind when the patient fails to respond in an adequate fashion to the therapeutic procedures instituted."

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Meralgia Paraesthetica in Pregnancy

"Meralgia paraesthetica is an uncommon minor disorder in pregnancy. It is due to irritation of the lateral femoral cutaneous nerve, leading to paraesthesiae and loss of sensation. No active treatment is necessary."

Philip Rhodes. The Lancet, Vol. II for 1957, No. 7000, P. 831



John Friend Mahoney

Often in the years after the announcement of the successful treatment of human syphilitics with penicillin, I asked Mahoney how the idea came to him. He initiated the study in the face of adverse reports by everyone who had the opportunity to test penicillin in the laboratory and in the clinic. Its activity was limited to cocci. Yet he pursued the idea of treating treponemal syphilitics with it!

Each time, as if he had not told it to me a dozen times, Mahoney in the slow, modest way he had, voiced the same sentiment. Well, we were trying everything in syphilis. It was time to try penicillin.

I wrote that paragraph for an unpublished History of Public Health Aspects of Social Hygiene in New York City. It doesn't tell the true story. Nor is the full story told in Mahoney's printed words. His article, "Some of the Early Phases of Penicillin Therapy of Syphilis," (A.M.A. Archives of Dermatology, pp. 485-488, May 1956) says: It had long been a rule in the Venereal Disease Research Laboratory (on Staten

HERMAN GOODMAN, M.D. New York, N. Y.

Island) that any preparation coming under scrutiny be screened for treponemicidal activity in experimental syphilis in rabbits.

Following this rule, a small amount of the material (penicillin allotted by the National Research Council and earmarked for the development of a therapy for male gonorrhea) was diverted to animal assay.

Those words cover a multitude of sins of omission and commission. There is no hint in those words that the rule was one Mahoney established. Next, Mahoney was unable at first to divert any of the earmarked penicillin. He grew his own for the initial experiments on rabbits. He was assured and reassured that penicillin had no influence on human syphilis. Last, it was only against powerful opposition that he diverted the earmarked penicillin to human syphilitics. Theodore Rosenthal, M.D., recalls Mahoney remarking on this after his rabbits showed miraculous and previ-

ously unknown therapeutic results to his home-grown variety.

The period of transfer from animal study to human syphilis was one of hush hush. Of course, there were hints. And a leak or two. Each time I saw Mahoney, he smiled. He smiled. That was all. Only the smile held something. In my Notable Contributors to the Knowledge of Syphilis you read on the last page:

Today may find some new discovery in the printing shop of a medical magazine leading to completely revised ideas of the development of medical science, a new vaccine; a new toxin; a new procedure may revolutionize life. We anticipate new things to destroy life why not to maintain it.

That was 1943—June of 1943! Mahoney was the Director of the Venereal Disease Research Laboratory. He was its only director. The rule he quoted was his own. He modestly wrote: . . . a group from the scientific staff of the laboratory was assembled and asked to determine the amount of the individual injection and its frequency of administration

We find this sentence: The early days of penicillin were fascinating. And this one: The use of penicillin in syphilis, led to its study in other treponemal diseases. One of the most important of this group is yaws.

Read this for a measure of the man Mahoney: It is gratifying to have been concerned with the development of this product, if even in a very minor capacity

Take these words from Mahoney: A study of the usefulness of the drug (penicillin) in the management of syphilis was undertaken after limited experimentation indicated that penicillin

possessed some spirochetal activity.

It is suggested you read now—Penicillin Treatment of Early Syphilis. A preliminary report. Ven. Dis. Inform., 24:355, 1943 or Am. J. Publ. Health, 33: 1387, 1943. The authors were: J. F. Mahoney, D. C. Arnold and Ad Harris.

John Friend Mahoney was born August 1, 1889 at Fond du Lac, Wisconsin. His parents were David and Mary Ann (Hogan) Mahoney. His wife was Leah Ruth Arnold whom he married September 29, 1926. His children are Janet Ann and John Friend Mahoney.

Mahoney completed his college studies and enrolled at 'Marquette University College of Medicine. He graduated in 1914. He interned at Milwaukee County Hospital and Chicago Lying In Hospital. He entered the United States Public Health Service in 1917. He was given the opportunity of spending seven years abroad at various stations.

In July of 1929, Mahoney became Director of the Venereal Disease Research Laboratory at Staten Island. He remained at his post until December 1949. Immediately thereafter, he was appointed Director of Laboratories of the Department of Health of the City of New York. Within a few days of assuming his new office, he was appointed Commissioner of Health, succeeding Commissioner Mustard. Mahoney remained Commissioner until the first of the year 1954. He was succeeded by Leona Baumgartner, Mahoney returned to his post as Director of Laboratories. He held this directorship at the time of his death, February 23, 1957.

Little known is the decision Mahoney made during his commissionership to initiate and stress the ambulatory treatment of tuberculosis. Daniel Widelock, Ph.D., recalls he did this at the first indication of the value of the earliest chemical therapy at the Sea View Hospital on Staten Island. Here was a momentous decision. It led in time to a closely supervised experience in New York City and ultimately elsewhere. It led to a change in concept and a great saving in hospital beds previously required for the rest treatment of tuberculosis.

Practical application of laboratory and pilot experiences was made to the needs of human patients. Mahoney was a sincere, devout Catholic. The manner of man had deep roots in the laboratory. He always had an eye to the fellow in the sick bay and the hospital bed.

A review of the publications of the past twenty-five years bearing the name of Mahoney as author, senior author or junior author or as one of the unnamed under et al discloses this awareness of the link between the laboratory and the clinic. We find, too, a concentration of effort in the field of venereal diseases. One expects that from his position since 1929. Each year, there were publications and always brief ones on aspects of venereal disease. His contributions had bases in prophylaxis; raised trunks in the detection through serodiagnosis and the improvement in that special art. Evaluation of serodiagnostic technics occupied Mahoney for each of the years Committee on Evaluation of Serology existed.

Mahoney was deep in the exciting, albeit costly, continuous intravenous drip of arsenicals. He surveyed the serological results. He made his own conclusions. I am happy to relate he alone of the group engaged in the work remembered my efforts of 1918 and 1919. A four-day treatment of syphilis along the lines taken by Pollitzer from

Scholtz was used in the treatment of hundreds of prostitutes. Clinical lesions disappeared. Serology was reduced. Mahoney assured me it made little difference. Neither effort would impress historians of the next century.

Then came the introduction of the first of the sulfa medicaments for the treatment of gonorrhea. Mahoney supervised studies leading to proper use of these in males and females. One after another of the sulfa formulas was tested. Penicillin became available to continue the series. It was first tried in gonorrhea on Staten Island. Not too long thereafter, the world awakening announcement of penicillin in infectious syphilis. Here was the first true fruit of the genius Ehrlich; the painstaking Fleming and those preceding—those following them.

Mahoney's contribution will be recalled in history. It was the courage of the man to insist upon following the rule he established. Trying penicillin on rabbit syphilis earns the homage of the world. A lesser man would have taken the easier route.

Mahoney was certified by the American Board of Preventive Medicine and Public Health. Lecturer in Dermatology, Columbia University: Association Professor Clinical Syphilology and Dermatology, New York University. Member, New York City Selective Service Advisory Committee. Member, New York Academy of Medicine and Member of its Committee on Public Health Relations, Member, American Social Hygiene Association. Fellow, American Medical Association. Fellow, American Public Health Association, Chairman, Committee of Experts on the Venereal Diseases, World Health Organization, 1947 to date. Chairman, National Ad-

visory Serology Council, 1935 to date. Chairman, Committee for Standardization of Serologic Tests for Syphilis: American Public Health Association. 1947 to date, Member, Social Hygiene Committee, New York Tuberculosis and Health Association, Member, Board of Governors, American Public Health Association, 1952. Member, Committee on Research and Standards, American Public Health Association, 1947 to date. Recipient of the following honors and decorations: Diploma, National Association of Venereologists, Mexico, 1945; Diploma, National Federation of Medicine, Guatemala, 1946; Honorary Life Membership, American Social Hygiene Association, 1946; Honorary Life Membership, and Wellcome Prize 1935, Association of Military Surgeons; Winner, Lasker Award, American Public Health Association, 1946.

The John F. Mahoney Training Center was opened in fall of 1957 by Bureau

of Public Health Nursing of Department of Health of City of New York.

The American Social Hygiene Association bestowed its show gold medal posthumously, November 1957, Mrs. Mahoney accepted the medal.

It is difficult to convey the nature of the man to persons who did not know Mahoney. One calls for adjectives as unassuming. Not pretentious. But to those who knew and admired him—only the word sweet seems to apply. Difficult to say a man of his proportions was sweet! But a sweet soul holds the key to wholesome being, John Friend Mahoney.

His epitaph: This man diverted the course of a plague from his fellow man in every part of the world. Generations yet to be born healthy owe their physical and mental sanity to the part played by Mahoney. In this he was truly unique.

18 East 89th St.



Clini-Clipping

Injection of Procaine into the tender area of ankle sprain. (Leriche)

Medical Ethics and Etiquette

Section II. "Physicians should strive continually to improve medical knowledge and skill, and should make available to their patients and colleagues the benefits of their professional attainments."

PRINCIPLES OF MEDICAL ETHICS J.A.M.A. 164.1484 (July 27), 1957

is interesting that this principle, which to my way of thinking is in part a new concept in the Principles of Ethics, should be placed second. This high position in the order of the ten Principles demonstrates the high regard in which medical research and the advancement of medical knowledge is held by the Judicial Council of the American Medical Association which formulated the Principles, and by the House of Delegates which accepted them. The principle is taken directly from the Oath of Hippocrates; and when one considers it, one wonders why its enunciation in its present form has been so delayed. It is interesting that Dr. Welch missed this opportunity in 1903.

Common Good The avowed objective of our profession is the common good of mankind. The more we strive to improve our own medical knowledge and skill and to increase the total body of scientific knowledge, as such relates to medicine and its auxiliary branches, the closer we come to achieving our objective. We spend our lives dispensing the benefits of acquired knowledge, and we know full well the importance of rapid dissemination of proven medical thought and practices, if the best interests of our patients are to be served. Our profession is mondial in its philosophy. Nationalistic and chauvinistic attitudes cannot be tolerated.

Teaching As physicians we must remember that all that is new, good, and proved under rigorous scientific discipline should be made available for the care of our patients and those of our colleagues. If the physician possesses special talents or technical abilities, he is expected to use them fully. He must also realize that he should do everything in his power to teach his techniques and skills to others so that the greatest number of people may benefit from his accomplishments. He must be willing and eager to devote much time to graduate and postgraduate teaching. The informed physician of today cannot retire to an ivory tower, but must be constantly imparting his knowledge and

This is the third in a series of articles on the revised Principles of Medical Ethics of the American Medical Association. It will be our purpose to discuss, separately, each of the Sections of these Principles in light of its ethical content and its relation to medical etiquette.

THE EDITOR

skills to his patients, students, and colleagues; this is particularly true of surgeons, as a study of the history of surgery so well demonstrates. Surgery is not a knowledge of techniques. It is an art, learned as an apprentice at the side of a master.

The physician must never stoop to the use of devious methods in his attempts to advance medical science. In all experimentation on human beings, "the voluntary consent of the person on whom the experiment is to be performed must be obtained, the danger of each experiment must have been investigated previously by means of adequate animal experimentation, and the experiment must be performed under proper medical protection and management." (J.A.M.A., March 30, 1957.) The dignity and rights of the individual patient must always be protected in each experiment. We are not dealing with guinea pigs,

Patenting This Section also covers the question of patenting or copyrighting medical knowledge, drugs or devices. It is interesting that the patenting of a drug or device by a physician was considered unethical by the American Medical Association until as recently as 1955. However, in the revision of the Principles of Ethics which was com-

pleted in that year, it is stated that, "a physician may patent surgical instruments, appliances and medicines, or copyright publications, methods or procedures."

However, it is plainly and clearly stated that it is unethical to use such patents or copyrights, or the remuneration therefrom, to retard or inhibit research, or to restrict the benefits which can be derived by the profession or public from the protected drug or device. (J.A.M.A., March 30, 1957.) This has seemed to your editor to be a reasonable solution of a problem that has increasingly plagued the profession for the last half century.

It is still unethical to prescribe or dispense remedies the composition of which is secret, or any remedy, the composition of which is unknown to the physician. The manufacture or promotion of the use of such agents by the physician is also unethical. In this respect it is both unethical and, in certain states, of doubtful legality, for physicians to control pharmaceutical companies and interlocked drugstores for the purpose of restricting their prescriptions to those products manufactured by the companies in which they hold an interest, and thus profiting at all levels.

OFFICE SURGERY

GANGLION

ganglion is a benign subcutaneous cystic lesion which arises from the capsule or surrounding connective tissue of a joint, or from a tendon sheath. It is the most common tumor of the hand, but is seen in other locations as well. The most frequent site is the dorsum of the wrist, overlying the navicular or lunate (Figure 1). A somewhat less common site is the volar surface of the wrist, usually between the brachioradialis and flexor carpi radialis tendons. In this position it lies very close to the radial artery, a relationship which must be kept in mind at the time of surgery. Other locations are the volar surface of the fingers, often just distal to the metacarpo-phalangeal joint (where the cyst is usually small and firm), the dorsal and palmar surfaces of the hand (between or on the extensor or long flexor tendons, respectively) (Figure 2), the region of the head of the fibula, the terminal phalanx of the finger or toe (Figure 3), and the dorsum of the foot (Figure 4). It may arise directly from a flexor tendon in the region of a pulley, and give the symptoms of a "snapping finger" or "snapping thumb,"

Incidence Ganglia occur more commonly in women than in men in the ratio of about three to one. They generally appear in the second and third decades. Howard has called attention to another type of ganglion arising in later life in patients with arthritis, and often responding to treatment with compound F.

Etiology and Pathogenesis A history of trauma can be elicited in about a third of cases, and this may be an important factor in causation. There are three theories of pathogenesis. One is herniation at the site of a weak point in the joint capsule or tendon sheath. Another and more recent theory is neoplasia of the synovial lining. The most widely held view is that a ganglion results from degeneration of connective tissue around the joint or tendon sheath, similar to the development of an adventitious bursa.

Pathology Grossly a ganglion is a thin-walted cyst filled with clear,



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Fig. 2 Ganglion on the flexor tendon sheath of the distal palm.

Fig. 3 Ganglion or mucoid cyst on the dorsal surface of the distal phalanx of the thumb.



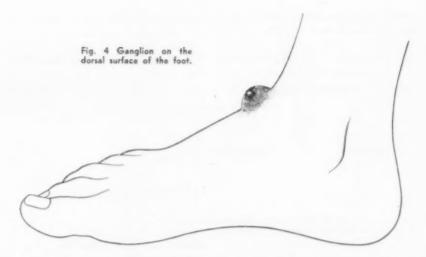
colorless, viscid, mucoid material, which has the appearance of synovial fluid. It may be single or multiloculated, and may vary in size from a pellet of buckshot to a large marble. A thin stalk may extend down to the underlying joint capsule, but there is no communication between the lumen of the cyst and the joint cavity. Histologically and ganglion wall is composed of layers of collaginous fibrous connective tissue which often contain areas of degenerated collagen. There may be nerve fibers incorporated in the wall and the cyst may be lined with a thin layer of mesothelium.

Ganglia do not undergo malignant change, do not spontaneously rupture through the skin, and unlike bursae, rarely become infected.

Symptoms and Signs The cyst is usually first noted by the patient as a smooth, rounded, non-tender subcutaneous swelling in one of the sites mentioned above. It may be very firm or soft and fluctuant. The skin moves over it but the cyst is firmly attached deeply. Motion of the joint over which it lies often makes the ganglion more prominent.

Pain is a common symptom and is characteristically dull and constant, but may become sharp and stabbing with motion of the joint or on direct pressure, especially over a small ganglion in the palm. Patients frequently complain of weakness of grip, and in some cases this has been shown to be due to pressure of the ganglion upon the deep portion of the ulnar nerve at the wrist.

Differential Diagnosis Lesions from which ganglia must be differentiated are lipoma, xanthoma, epidermal inclusion cyst, and tuberculous synovitis. The history is important in differentiation. A



cystic swelling over the dorsal surface of the terminal finger joint may be a true ganglion or a mucoid cyst, formed presumably from mucoid degeneration of the dermis. (Figure 3).

Treatment Ganglia occasionally disappear spontaneously. Treatment of persistent lesions is warranted for the relief of pain and weakness, and to satisfy the patient's desire to be relieved of the unsightly swelling.

A number of therapeutic technics have been used: rupture, aspiration, injection, irradiation, and excision. Rupture of a prominent superficial ganglion can at times be accomplished by striking it with a heavy book. About fifty percent of ganglia which are ruptured by this technic recur, and there is of course the danger of fracturing the underlying bone or so traumatizing the joint capsule that even if the ganglion does not recur itself, another ganglion may be produced.

Aspiration is unsatisfactory in most cases because of the gelatinous nature of the fluid. Even if the cyst can be evacuated is usually refills promptly. Injection of sclerosing agent or cortisone after aspiration offers little additional benefit. Hydrocortisone may be of value, however, in the treatment of small digital ganglia which develop in older patients with arthritis.

X-radiation has been reported to be effective in the treatment of some ganglia. However, about one and a half erythema doses are required, and the use of this much X-ray does not appear warranted, especially in the hand.

The most satisfactory method of treatment is surgical excision. This may be accomplished under either local or general anesthesia. A tourniquet should be used to provide a bloodless field. Incision over a joint should be made in line with the skin folds: longitudinal incisions on the dorsal and volar surfaces of joints should be strictly avoided. Meticulous dissection of the ganglion is essential if it is all to be removed without rupture, and if other structures—tendons, nerves, and blood vessels—are to be preserved. Portions

of the cyst which may be left behind at surgery are the most common cause of recurrence. If the joint is opened during the dissection, it may be closed, but this is considered unnecessary by most surgeons. Careful closure of the subcutaneous tissue and skin is essential for the obliteration of dead space and for primary healing. A pressure dressing with the hand in the position of function should be worn for seven to ten days, after which motion may be started.

Long-Term Follow-Up of Patients with Healed Bacterial Endocarditis

"The present status of 17 patients who were discharged from the hospital cured of bacterial endocarditis six or more years ago was determined. During the first year after penicillin therapy five patients died, three of congestive heart failure and two of noncardiac causes. Two additional patients died 26 months and six years after penicillin therapy, of coronary heart disease and congestive failure, respectively.

"Of 10 living patients followed for from six to ten years, four are asymptomatic, five have slight limitation of activity, and one is moderately disabled.

"Four of the seven patients with aortic regurgitation are now dead, and the other three have shown a decrease in functional capacity. This findings contrasts with that for nine patients who had only mitral valve disease, of whom two are dead, three have worsened symptomatically, and four are unchanged. One patient had the tetralogy of Fallot.

"This study shows that some patients may remain well for from six to 10 years after recovery from bacterial endocarditis, especially if aortic regurgitation is not present.

"Healed bacterial endocarditis must now be considered in the differential diagnosis of mitral regurgitation and of aortic regurgitation."

Buford Hall

Annals of Internal Medicina, Vol. 47, No. 5, P. 887

MEDICAL JURISPRUDENCE



Sterilization and the Law

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Sterilization is a surgical or radiological procedure that prevents procreation on the part of the individual upon whom it is performed. Sterility may, of course, occur as an incidental effect of surgery. In such cases sterilization of the patient may be a medical necessity. In other cases where sterilization incidental to surgery results because of negligence, general malpractice laws will prevail.

The subject of the legal liability of physicians, both criminal and civil, for voluntary (elective) sterilization is, however, very unclear. This article is intended primarily to raise the questions facing a physician in this field and to suggest certain precautions to be taken in view of the lack of clarity of the law on the subject. Eugenic sterilization (compulsory sterilization imposed by the

state on certain classes of the mentally ill, feeble-minded, epileptics and criminal recidivists, who are likely to produce socially inadequate offspring), and sterilization of criminals, as a punitive measure or a method of preventing crime, will be touched on only to indicate the extent of the subject.

Sterilization Statutes While 29 states enacted eugenic sterilization laws, in most states no statutes deal specifically with sterilization of a private patient. Those few states which do (Kansas, Iowa, Utah, Indiana, Mississippi and Virginia) distinguish between therapeutic and non-therapeutic sterilization, prohibit non-therapeutic sterilization, and declare such act to be either a misdemeanor or a felony.

The eugenic sterilization laws of some states make it clear that therapeutic sterilization is legal. One such example is the Virginia Code, which reads:

"Nothing in this Chapter shall be construed so as to prevent the medical or surgical treatment for sound therapeutic reasons of any person in this State, by a physician or surgeon licensed in this State, which treatment may incidentally involve the nullification or destruction of the reproductive function."

Is Non-Therapeutic Sterilization a Crime? What about states in which no statutes exist? Assume the subject has consented to or requested the sterilization. There is no question about the legality of therapeutic sterilization. One of the few cases dealing with the legal aspects of voluntary sterilization makes this unusually clear. The physician advised a husband and wife of the dangers of child bearing to the wife. He suggested the husband undergo a vasectomy and the operation was performed. The Minnesota Supreme Court held that a contract to perform the operation for the stated reasons was not void as against public policy, nor was the subsequent operation illegal. The Court further expressed its opinion that even in those states which expressly prohibit sterilization the exception of medical necessity would justify a physician in performing a sterilization operation.2

Sterilization for non-medical reason may very well be illegal in those states which have mayhem statutes in their criminal laws. The California Code thus defines mayhem:

"One who unlawfully and maliciously deprives another of a member of his body or disfigures or disables it or renders it useless, etc., is guilty of mayhem."³

Some writers have argued that while castration, which so alters the person-

ality and physical constitution of the subject, would constitute mayhem, vasectomy and salpingectomy, which do not impair hormone balance, alter personality, render the subject unfit to fight or less competent to earn a living, would not come within the mayhem statutes.4 Others object to this distinction, believe that non-therapeutic sterilizations constitute mayhem, that consent to the criminal act is void for all public purposes, and further that the elements of criminal assault are present even apart from mayhem statutes.5 While a layman might think the word "maliciously" in the statute would save the act from being a crime, the legal definition of "malice" is quite different from its Webster's Dictionary meaning, and Courts will so interpret it. One Court has said a malicious act is "a wrongful act intentionally done without legal justification or excuse."6

No case has been found of a criminal prosecution for the voluntary sterilization of a person. The possible illegality of the act is still a factor to be considered, especially in those states which have a strong policy against birth control. Even those states which allow or encourage contraception may hold such radical or irrevocable measures as sterilization to be unreasonable forms of contraception violative of the social interest in maintaining the birth rate. 60

A surgeon runs a definite risk in performing an operation for non-therapeutic sterilization. If death results he may well be charged with murder. The physician should keep in mind that economic reasons are insufficient justification for the operation. There must be a definite pathologic reason for the procedure, and consultation with another specialist is a minimum precaution to be taken before proceeding with the operation.

The California Attorney-General wrote an opinion in 1950 in which he said:

"The presently established policy of this state forbids the performance of a sterilization operation upon an individual . . . unless it is clearly shown that the life of the patient is in grave danger and may be lost because of a failure to perform such an operation."⁷

Civil Liability for Voluntary Therapeutic Sterilization Where consent has been obtained for elective therapeutic sterilization of a private patient no civil liability exists barring negligence. The only case directly in point is Christensen v. Thornby discussed above. In that case the physician actually failed to sterilize the husband; the wife gave birth successfully



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to another child. No negligence was alleged. No recovery was allowed. The Court held that the operation was legal; the couple suffered no damages. On the contrary, they were "blessed with another child."

Even where negligence is alleged some Courts refuse to permit recovery on the grounds that the damages are too remote, i.e., loss of possible unborn children or their services. This was the case in Landwehr v. Barbas.9 A wife sued a physician for the negligent emasculation of her husband. Her loss of potential motherhood did not entitle her to recover damages. A New Jersey Court was able to find damages, however, in a case where the physician negligently failed to sterilize the patientwife. The failure resulted in a need for a second operation and the plaintiffs. husband and wife, were entitled to recover for all pain and suffering, mental and physical, together with loss of services.10

Consent Consent can be wary in sterilization cases where consent of only one party to a marriage can effectively rob the other spouse of prospective parenthood. A husband failed to give consent to a hysterectomy performed upon his wife, then confined to private mental hospital. The physician was liable.¹¹

Under ordinary circumstances, however, it would seem that a wife in full possession of her faculties may determine for herself whether she should submit to an operation. But as a matter of policy the husband's consent should be sought. One text points out that the absence of the husband's authorization may point to a lack of faith on the part of the wife or the physician.¹² If consent of the other spouse cannot be obtained consultation with another specialist as to the medical necessity of the operation would certainly be required.

As will be seen later, consent does not always validate an operation.

When Is a Sterilization Operation a Medical Necessity? Certain medical reasons for sterilization are generally agreed upon, including, for example, severe types of heart disease, active pulmonary tuberculosis, severe kidney disease, diabetes. In general operations to cure a disease or defect or to protect a patient's life, as for example to prevent pregnancy where the patient's life would be endangered, are operations which are medically necessary.

Doubtful cases include operations to prevent transmission of tainted hereditary factors or diseases. In such cases legal advice on the laws of the particular state should be sought.

Other conditions, such as mild diabetes and psychiatric cases, have created differences of opinion in the medical profession. Consultation is most certainly required in doubtful cases, and wise in all cases.

Civil Liability for Voluntary Non-Therapeutic Sterilization In states where non-therapeutic sterilization is a crime, consent to such an operation may not save the physician from civil liability. Consent may be voided, just as in abortion cases, since a person cannot consent to the commission of a crime. This may be true similarly in states where there is a strong public policy against sterilization, or contraception.

However, even if the wife is refused a right of action against the surgeon because that particular jurisdiction does not permit a person to benefit from her own illegal act, the husband who was not a participant in the crime may be given a right of recovery against the surgeon. Again we run into the problem of remote damages, which a Court could overcome if public policy were strong enough. Again, there is no law on the subject.

Since there is a strong possibility that a physician may be liable civilly, even where there is consent, for an elective non-therapeutic sterilization he would be well advised to refuse to perform such an operation.

MALPRACTICE AND STERILIZATION

Consent Surgeon diagnosed patient's case as appendicitis and obtained her written consent to perform any operation which the surgeon deemed necessary. Upon operating, the surgeon discovered the Fallopian tubes were so inflamed as to require removal. Patient thus became unable to bear children. Patient sued doctor for assault and battery alleging an unauthorized operation. Held: no recovery. The consent was general and covered the specific operation performed; moreover, since an emergency existed the removal of the Fallopian tubes would have been justified without consent.13

In Roche v. Hull, 14 a 1942 Missouri case, patient, the wife, consented to the removal of her appendix. During the operation the physician informed the husband of the diseased condition of the Fallopian tubes and advised their removal. The husband authorized the doctor to use his best judgment with reference to the matter. The Court held that the consent of the husband was valid since the wife was physically and mentally unable to act for herself.

Physician performed a vasectomy on plaintiff on oral consents of husband and wife. Plaintiff thereupon sued him for damages claiming authorization was given for circumcision, not vasectomy. The evidence indicated that plaintiff throughout the discussion with the surgeon talked only of the "operation," while the wife talked of a "tube-tying" operation. The Court held that oral authorization was valid and the question of the kind of operation authorized was one for the jury. This case illustrates only too well the wisdom of written consent, even though the Court said:

"The business of getting signed authorization on a formal instrument is but a rule of professional custom, laudable in every respect, but it is not required by any law."¹⁶

A second surgeon assisting in the vasectomy was relieved from liability upon a directed verdict. He acted on the assurance of the patient's physician that there were written consents to vasectomy which he inadvertently left in the office. The second surgeon was assured that the consents would be filed with the hospital. The Court held he took every reasonable precaution and was entitled to rely on the assurance of the patient's physician that there were written consents, just as a surgeon is entitled to rely on the diagnosis of patient's physician without the necessity of making an independent diagnosis.17

X-Ray Defendant treated plaintiff with X-rays for a skin irritation in the region of the scrotum. The treatment continued for about three weeks, with five treatments each week. At the end of this period plaintiff suffered from X-ray burns, and became impotent and sterile. He was awarded \$29,125 damages. Three experts, one in the treatment of cancer, and two in radiology, testified that plaintiff's condition would



develop into cancer of a fatal type; and proper treatment of his condition would require skin grafting and castration. They further testified that X-ray was too dangerous for a general practitioner and was not justified as the first form of treatment for skin disorder. The evidence indicated that defendant timed his excessive exposures with an antiquated alarm clock, and a yardstick was used to approximate the patient's distance from the machine.¹⁸

Froud A surgeon is not a guarantor of the results of an operation. In Chrisensen v. Thornby¹⁰ plaintiff sued the surgeon in an action for fraud and deceit for failing to successfully sterilize him. No fraudulent representations as to the result of the operation were proved; nor was malpractice alleged. No recovery was allowed,

Plaintiff engaged defendant to take out her appendix. During the operation, without her knowledge or consent, defendant removed her right tube and ovary, and concealed this from plaintiff. The removal of these organs was negligently performed and necessitated a second operation, for the removal of the left tube and ovary, thus rendering it impossible for plaintiff to bear children. Plaintiff became aware of the removal of the right tube and ovary after the second operation. The Court held that the concealment constituted a fraud upon plaintiff.²⁰

Statute of Limitations The question of fraud was significant in the foregoing case since plaintiff sued more than ten years after the operation. In an ordinary case the action would have been banned by the Statute of Limitations, Fraudulent concealment of a vital fact however tolls the statute, and it does not start running until the fraud is discovered.²¹

A physician advised the wife not to have children. Upon completion of a sterilization operation upon her he represented it was successful and the wife continued to have normal intercourse. She became pregnant, had a difficult birth, and her health was impaired. Some time after the Statute of Limitations had run as to the wife's action, the husband sued the physician to recover for loss of services and companionship, and for moneys expended in her care and medical treatment. Defendant claimed husband's suit was based on his services and barred by the Statute of Limitations. The Court held the husband's cause of action was separate from the wife's and accrued not from the date of the negligent acts but from the actual time the loss of services began. The cause of action in this case, although based on defendant's negligence, accrued not from the time the sterilization operation was performed, but from the time the wife became pregnant.²²

In Colorado there is a one year Statute of Limitations for assault and battery. The Malpractice Statute is two years. Plaintiff sued defendant more than one year after the operation for wrongfully performing a vasectomy instead of a circumcision. He alleged no negligence in the operation. Defendant claimed the gist of the action, that of an unauthorized operation, lay in assault and battery. The Court held the action was one in malpractice. The malpractice consisted not in lack of skill, but in the degree of care defendant owed plaintiff.²³

Damages In cases where a physician negligently sterilizes a person during an operation many Courts, while awarding the usual damages, have refused to allow additional damages for the resulting inability to have children. These damages are considered too remote.²⁴

In an 1857 English case a double ovariotomy was performed upon plaintiff, a single woman engaged to be married, against her express instructions. She broke her engagement upon learning she would be incapable of reproducing, and sued the doctor. The Court practically instructed the jury to bring in a verdict for defendant.²⁵

It is not inconceivable, however, that Courts may be influenced by modern sterility and fertility tests and in the future allow damages for inability to produce children to one or both spouses in a marriage.²⁶

Other Fields A woman had been

sterilized prior to marriage. She concealed the fact from her husband. The Court held he was entitled to an annulment based upon fraud. The interest in procreation is a true marital interest.²⁷

In Wiley v. Wiley,28 the husband was sterilized before marriage at the wife's request. After marriage she refused to have intercourse with him. The husband was entitled to an annulment based on fraud. His inability to procreate was due to his wife's desire, with her knowledge, and at her request. She was not deceived prior to marriage.

An action in real property turned on the question of sterility. A life tenant was voluntarily rendered sterile. The moral aspects of the situation did not prevent his children from collecting from the estate.²⁰

Eugenic Sterilization Twenty-nine states have eugenic sterilization statutes. They provide for sterilization of persons committed to state institutions who are afflicted with certain mental diseases which may be transmitted to descendants, feeblemindedness, or certain criminals who, for example, are perverted or show marked departure from normal mentality. These statutes protect persons acting under it from civil or criminal liability.³⁰ They must be strictly observed. They have been held constitutional.³¹

Summary

 Non-therapeutic sterilization is a statutory crime in some states. Even in those states therapeutic sterilization is legal.

 Non-therapeutic sterilization may be a crime in states which have no specific statute on their books. The crime may be that of mayhem or even criminal assault.

 Death resulting from a non-therapeutic sterilization operation may leave the surgeon open to the charge of murder.

 A physician would do well to refuse to perform non-therapeutic sterilizations.

5. Barring negligence or fraud and deceit, present proper consent, no civil liability exists for a therapeutic elective sterilization.

 In case of married persons, written consent of both parties is a proper precaution after disclosure of all the facts and reasons for the operation and the consequences involved. 7. Consultation with another specialist as to the medical necessity of the sterilization is another proper precaution which should be taken; particularly if there is a difference of opinion in the medical profession as to the necessity of the operation in a specific case such as mild diabetes.

8. Consent to non-therapeutic sterilization may be void in states where such an operation is a crime or against public policy. The surgeon may be held civilly liable despite consent.

 While emergency justifies removal of organs or other procedures during an operation without consent, a physician should tread warily for differences of opinion exist as to what constitutes an emergency.

10. A husband's consent to a sterilization operation on the wife is valid if she is physically and mentally unable to act for herself.

11. Courts have been awarding large recoveries to persons negligently in-

jured by x-ray treatments. A patient should be informed of the possibility of impotency or sterility occurring from x-ray treatments where the possibility is present.

12. Patients should similarly be informed of the possibility of sterility occurring incidental to other operations when that possibility exists.

13. Concealment of the results of an operation is fraud and tolls the Statute of Limitations.

14. An unauthorized operation is

malpractice as well as assault and battery.

15. While most Courts in the past have refused to allow damages for inability to procreate as a result of a negligent sterilization or illegal sterilization, future policy may be to allow such damages to both husband and wife.

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16. A physician operating under a eugenics statute must observe its procedures strictly in order not to be liable, civilly or criminally.

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BY JAMES E. BRYAN

Prepaying the Doctor

There are more than 70 Blue Shield Plans organized and endorsed by local units of the American Medical Association. What medical services do most of these Plans seek to cover by prepayment and how do they differ from other types of medical care prepayment or insurance?

Blue Shield is a typically American contribution to the sociology of medical care.

There is nothing quite comparable to it in any of the other industrial countries, where almost universally the government plays an important—frequently a dominating—role in the medical care programs that are part of their social security systems.

Through his Blue Shield Plan, the American doctor has pioneered a unique approach to the problem of medical security. He has shown it is possible on a grand scale, and by strictly voluntary methods, not only to help his patients to prepay their medical bills, but at the same time to preserve factors of free choice, free-for-service, and the private, confidential patient-physician relationship—factors that are basic to the provision of the best possible medical care.

Thus, American medicine has made a tremendous contribution to the public welfare and to its own welfare, also. That the effort has "rung a bell" with the people is shown by the popular response. Within 15 years, some 40 million people have become members of the 70-odd Blue Shield Plans that have been organized and endorsed by local units of the American Medical Association.

Needless to say, this vote of confidence is a challenge to the profession to support the mechanism it has created, and to expand its services until they cover all the areas of need and all the segments of society not yet covered by Blue Shield or some equally satisfactory program.

Characteristics Blue Shield Plans are really community enterprises, in which labor, industry and other local groups of people have joined forces under the leadership of the local medical profession.

Being local enterprises, the Plans differ in many details of scope and management according to the peculiar needs of the areas which they serve.

The American Medical Association has always insisted on the principle of local responsibility for meeting local needs. Local autonomy has paid off, too, in many ways. It has attracted hundreds of physicians into the challenging job of directing local Plan policy; it has given the entire movement the flexibility needed to weather depressions, inflations, war time controls and peace time complacency. It has made possible a rich variety of experimentation the results of which the Blue Shield Plans have shared among each other. This common experience of 70 local Plans comprises, in aggregate, the greatest fund of actuarial information ever assembled in the health insurance field.

However, despite all these local variations in detail, Blue Shield Plans do share certain characteristics that set them apart from all the other organizations now operating in the field of voluntary medical care insurance. Here are some of these special characteristics:

- Medical Control. In every instance Blue Shield Plans must be specifically approved by their local or state medical societies. Medical policies, the formulation of fee schedules and their administration, and the conduct of the Plan's relations with physicians must be under medical control. Blue Shield Plans uniquely operate under the guidance of the medical profession.
- Non-Profit Operation. Blue Shield Plans universally operate on a "nonprofit" basis. This means that there is no "third party" seeking to make a profit out of the business of helping the doctor's patient pay for his necessary medical care. It also means that all operating surpluses belong to the subscribers and are returned to them in the form of additional benefits or more adequate payments for the services of their doctors.
- Community Orientation. Blue Shield

ABOUT THE AUTHOR

Nationally known as a consultant in medical administration, public relations and prepayment, the author has more than 25 years' experience in medical administrative work as executive secretary of the medical societies of New Jersey (state) and Westchester and New York (county). Mr. Bryan was administrator of New Jersey's Blue Shield Plan from 1950 to 1955. His authorship includes articles published in many of the leading medical journals as well as the book, "Public Relations in Medical Practice," Williams & Wilkins, 1954.

The non-profit basis of Blue Shield insures that no third party stands between doctor and patient to draw profits beyond administrative costs of the Plan's operation. All operating surpluses belong to the subscribers and are returned in the form of additional benefits or more adequate service payments to participating physicians.

Plans generally try to serve the entire community—not just those groups in the community who have the best health prospects and whom it is most profitable to enroll. Blue Shield—as an agency of the profession—is designed especially to cover the lowest income groups who most need prepayment protection.

Community Rates. To fulfill this community-wide responsibility, and to enable all kinds of people to obtain basic protection at a cost within their means, Blue Shield Plans, in most instances, base their subscription rates on the "experience" (the needs and costs) of the community as a whole.

 Family Coverage. Blue Shield Plans seek to enroll the entire family group, and they provide equal benefits to each person enrolled; again in recognition of the fundamental purpose to provide service where it is needed; not just where it's profitable.

• Continuous Enrollment. Blue Shield Plans guarantee their members the opportunity to continue their enrollment regardless of attained age, change of place or type of employment, or changes in health status affecting their insurability. (There are some exceptions among non-group members.)

 Service Benefits. Blue Shield Plans, for the most part, offer their benefits in terms of fully paid services, through the voluntary cooperation of more than 100,000 American doctors who have agreed with their local Blue Shield Plans to accept Plan payments as full payment for covered services, provided the family income is within the agreed limit for "service benefits". Even where such agreements are not formalized, the Plans seek to provide fees which physicians will accept in full payment. In all cases, the Blue Shield schedule of payments is formulated by or with the advice of the local profession.

The original aim of most Blue Shield Plans was to help people of low or moderate means to meet the cost-impact of unpredictable and expensive disabilities. Some Plans experimented with a "comprehensive" coverage - including home and office visits. But in actual experience they found the demand for elective, or partly elective, serviceswhen completely covered by prepayment-would be tremendous. quickly realized that a premium sufficient to cover both the basic needs and these more casual demands would be so high as to price the entire program out of the very market of low income people for whom the program was particularly set up.

Hence, the prevailing pattern of the early Plans was to cover the kind of medical contingency that most people can't afford to pay for out of current income or savings. Since most serious Blue Shield Plans operate under the guidance of the medical profession. Fee schedules, medical policies and their administration are under medical control.

medical emergencies and illnesses are taken care of in hospitals, Blue Shield Plans at first limited their coverage, as a rule, to hospitalized patients. There were other reasons, too, for adopting this method of coverage. For one thing, Blue Shield Plans in most instances were developed in cooperation with local Blue Cross Plans, and it was helpful, administratively, to limit Blue Shield to patients eligible for Blue Cross hospital benefits. Then, too, in times of maximum hospital occupancy, the requirement of hospital admission provided a built-in safeguard on the utilization rate for Blue Shield as well as Blue Cross benefits.

At first, many Blue Shield Plans limited coverage to in-hospital surgical cases; a few included obstetrical cases, and fewer offered some rather limited coverage for medical (non-surgical) cases—on a per diem basis. A limited number of Plans made payments for anesthesia service when rendered by a physician not employed by the hospital.

Some Plans paid for surgical services (all or some) when the procedure was performed in the doctor's office or elsewhere outside the hospital and a small number made "necessary" and "formal" consultations inside the hospital eligible for Plan benefit.

Almost universally, Plans excluded coverage for diagnostic services, and for home and office service (except possibly emergency surgery necessitated by an accident). In the brief and crowded years of Blue Shield history, the Plans have learned how to do lots of things they once thought impossible. While Blue Shield is necessarily limited by the laws of insurance, its unique relationship to both doctor and patient has enabled Blue Shield frequently to transcend these rules which would apply far more strictly to a straight insurance operation.

For example, to the extent that the doctor has accepted Blue Shield as his plan, he has helped to conserve Plan benefits and funds and he has helped persuade patients to refrain from demanding excessive or ineligible services. The patient, too, has sometimes tempered his demands on the Plan because benefits are in terms of professional services—not dollars.

In recent years, Blue Shield Plans throughout the U.S. have been moving toward a more uniform pattern of benefits. This tendency has been encouraged by the fact that more and more labor groups and big industries are now negotiating for prepaid services on a national scale. While such groups do not often care about the schedules of payments to local doctors, they do want their members all over the country to have the same scope of benefits—the same eligible services.

Briefly, here's the pattern of services that now seems to be pretty generally accepted among Blue Shield Plans:

• Surgery, whether in or out of hospital, and without limitation as to the

Providing service where it is needed, not just where it is most profitable, Blue Shield is designed especially to cover the lowest income groups who most need prepayment protection.

nature or number of procedures performed.

- Obstetrical services, in or out of hospital, including the normal care of the newborn,
- Care of the newborn, from date of birth, for all services generally eligible to older subscribers.
- Medical services in hospital, from date of admission. Many Plans extend these benefits up to 120 days or more, and some provide extra payments when the attending physician has had to make repeated or prolonged visits in a "crisis" situation.
- General anesthesia service, in or out of hospital, by a physician anesthesiologist not employed by a hospital.
- X-ray services; diagnostic or therapeutic; and professional laboratory interpretations; in or out of hospital, when rendered by a physician who customarily bills for such services.
- Physical therapy, in a hospital, when administered by a doctor who customarily bills for such services.

This, essentially, is the common pattern of basic Blue Shield services, at least for "inter-Plan" or national groups.

Beyond all this, Blue Cross and Blue Shield have given national encouragement to all Plans to develop a program of "extended benefits," or "major medical" as it is more commonly known in the insurance world.

The problems involved in "major medical" and the outlook for it will be discussed in the next and final article.

Doctor's plan You have undoubtedly heard people refer to Blue Shield as "The Doctor's Plan." Indeed, some of the Plans encourage the use of this phrase as a sort of subtitle. Many physicians in various parts of the country are extremely proud—and rightly so of the parts they played 10 or 15 years ago, in creating their local Plan and in persuading their colleagues to support it.

But to refer to Blue Shield as "The Doctor's Plan" can have unfortunate connotations. Anyone would acknowledge that a Blue Shield Plan is just as much "The Subscriber's Plan" as "The Doctor's Plan."

To some, the phrase, "The Doctor's Plan," may imply that the Plan operates mainly for the benefit of the doctor rather than the patient.

Much depends on the attitude of the individual doctor toward his local Plan. If he fails to acknowledge the special responsibility that he and his colleagues have toward their local Plan, or if he doesn't observe his special commitments as a "Participating Physician," or, again, if he takes advantage of Blue Shield or uses its payment merely as a platform on which to charge a higher fee—then the doctor should not be surprised if some of his friends conclude that Blue Shield is run largely for the doctor's benefit.

On the other hand, if the doctor looks upon himself not as the owner, but as

Through his Blue Shield Plan the doctor has preserved the factors of free choice, fee-for-service, and the private, confidential patient-physician relationship which are basic to the provision of the best possible medical care.

the trustee of Blue Shield, if he speaks well of the Plan, if he tries to help his patients understand the program and use its benefits intelligently, then people will accept Blue Shield as another evidence of the idealism and social conscience of the medical profession.

In a word, as "the doctor's plan," Blue Shield can either reflect the selfishness of medicine or it can testify to the doctor's generosity and community-mindedness.—And it all depends on the average doctor's attitude toward the Plan and those of its subscribers who come under his care.

Blue Shield is "The Doctor's Plan," not in the sense that the doctor owns it, but because he created it, because medicine sponsors and controls Blue Shield, because the doctor is responsible for the success or failure of the Plan, and because it's the most impressive evidence medicine has ever given that it is capable not only of providing good service but of helping people pay for it.

It's well to keep these thoughts in mind if we are to have a sound perspective on Blue Shield.

There's no denying the fact that Blue Shield has brought great benefits to the doctor—but it would be fatal if most people concluded that it's better for the doctor than for the patient who supports it. National Blue Shield In this article we have stressed the local nature of Blue Shield: its origins in local community initiative, its growth as a local community enterprise; its continuing autonomy in seeking to work out its problems in the light of hometown needs and conditions.

Blue Shield leaders soon discovered, however, that they have many problems in common: administering a Plan, billing and accounting, processing medical claims, maintaining statistics and records of their actuarial experience. In many technical fields of Plan operation, Blue Shield administrators found great profit in getting together, sharing their experiences, developing manuals of operations and calling in outside technical advisers to help them increase efficiency and reduce costs.

In the early 1940's, the American Medical Association encouraged the pioneer medically-sponsored plans through out the U. S. to form the "Associated Medical Care Plans." A.M.A. lent A.M.C.P. its initial organizing funds and gave it office space at A.M.A. head-quarters. After a few years, A.M.C.P. set up a separate office and became the national association known as "Blue Shield Medical Care Plans." Although this association is entirely independent of A.M.A., three members of the board

Blue Shield Plans are designed to serve the entire community—not simply those who have the best health prospects. Regardless of change in health status, age or type of employment, Blue Shield guarantees subscribers the opportunity to continue their enrollment.

of directors of Blue Shield Medical Care Plans (known as the "Blue Shield Commission") are appointed by the Board of Trustees of A.M.A., and their mutual interests are well coordinated.

The name and symbol of "Blue Shield" were first used by the Plan in Buffalo, New York. Eventually, however, the Plan ceded its rights to the national association, and the members of Blue Shield Medical Care Plans have entered into an agreement stipulating how a plan may qualify to use the name and symbol and how it can maintain that right.

The member Plans of the national association meet at least once annually to work out their policies and programs on matters of mutual interest. The national association has no power to determine the subscriber contracts, or to control the policies of any local Plan member. Each member Plan is required to meet and maintain certain membership standards if it wishes to continue to be known as a Blue Shield Plan. For example, every Plan must

- be endorsed by the state or county medical societies of the areas in which it operates
- operate on a non-profit basis
- · maintain free choice of doctor

- maintain the formal participation of at least 51% of the eligible physicians in its area
- devote at least 75% of earned subscription income to benefit payments (the national average is about 85%)
- maintain a professional relations program including a number of specified minimum procedures
- meet certain specific financial and reporting requirements.

"Blue Shield" is now a household word for medical care prepayment. Because it is so widely known and so highly respected, the name and symbol of Blue Shield are extremely valuable properties. And since Blue Shield is the only prepayment program that is generally endorsed by local units of organized medicine, it is a symbol of the American doctor's concern for his patient's welfare and security.

Like Caesar's wife, Blue Shield must be above suspicion. The function of Blue Shield's national association is not to govern the Plans (which it cannot do) but to establish and administer the high standards of organization and performance which any organization bearing the endorsement of the medical profession should be expected to maintain. UNIVERSITY HOSPITAL AND HILLMAN CLINIC



University of Alabama

One of the fastest growing hospital centers in the country is the University of Alabama Medical Center in Birmingham, Alabama. Already a major general health care and educational activity, rapid development is taking place under rather unique circumstances.

The parent institution is the 17-story, 600-bed University Hospital and Hillman Clinic. Other units of the Medical Center as it exists at present include the Medical College of Alabama, the University of Alabama School of Dentistry, the University of Alabama Birmingham Extension Division, a 500-bed Veterans Administration Hospital, a 100-bed Crippled Children's Clinic and Hospital and the Jefferson County Public Health Department. The 66-bed Children's Hospital is located nearby and is playing its

part in the Center's current expansion.

The unique circumstances mentioned involve negotiations through which the University of Alabama Medical Center is in process of acquiring ten and one-half additional blocks of property adjacent to its existing buildings in downtown Birmingham.

The fact that this land is available is in itself somewhat unusual, especially in a large city. Health planners interested in expanding facilities in most municipal areas must think in terms of additions to existing structures, going "up" or "out" for necessary space.

Construction In addition to acquisition of the land, present plans call for construction of a new research building to begin soon at a cost of more than \$2 million. An addition to the Medical Center Library is now under construc-



Medical Center

tion which will house the Reynolds rare medical book collection. Dr. Reynolds, a native of Alabama and presently chief radiologist and chief of staff at Harper Hospital, Detroit, Michigan, donated his valuable collection to the University of Alabama Medical Center.

In the immediate future, a new 120bed Children's Hospital will be constructed within the Center. Renovation and expansion of the present five University Hospital buildings also continues.

A residence for female students, other dormitories, and an ambulant patient center are also in the preliminary stage.

These activities follow the pattern of growth and expansion which has been characteristic of the history of the young University of Alabama Medical Center.

Hillman Hospital As the first unit of the Center, in its present location, the One of the fastest growing medical centers in the country, the University of Alabama Medical Center has under construction a \$2 million research building, a children's hospital, and a library wing.

University Hospital and Hillman Clinic had its historical origin in 1888 in the founding of The Hospital of the United Charities by a group of public-spirited Birmingham women. This "Board of Lady Managers" opened and operated the hospital in temporary rented quarters in the downtown section of the then very young city of Birmingham. The first permanent hospital was erected in 1890 and operation of the hospital was later assumed by Jefferson County.

A gift of \$20,000 had been made by



Dr. Richard Harris handles a night duty assignment in the emergency clinic.



Parent institution is the 17-story, 600bed University Hospital and Hillman Clinic. Of the beds, about 250 are operated as staff beds and 350 as private. There are 90 bassinets for care of newborn.

T. T. Hillman, president of the Tennessee Coal, Iron and Railroad Company, and in his name a new Hillman Hospital building was started in 1902. This building still remains a part of the University Hospital.

Through the years, other buildings were added to the Hillman Hospital including a wing in 1928, a nurses' residence in 1928 and an outpatient clinic building in 1938. In 1941 the Jefferson Hospital building was constructed.

University Affiliation In 1945 an agreement was made between the University of Alabama and Jefferson County setting up Jefferson-Hillman Hospital as part of the University in connection with the establishment of a four year Medical College and later, School of Dentistry.

In May of 1955 the name of the institution, which in 67 years had grown to one of the largest University Hospitals in the South, was changed to University Hospital and Hillman Clinic.

The interim period following affiliation as part of the University has seen construction of a building to house the Medical College and School of Dentistry, the Birmingham Extension Division, the Veterans Administration Hospital, the Crippled Children's Clinic and Hospital and the Jefferson County Public Health Department as well as remodeling of other buildings for activities such as a large psychiatric clinic and speech and hearing clinic.

Organization Operating as a full division of the University of Alabama, the hospital administration is responsible to the University's Board of Trustees through the president of the University and a vice-president for health affairs. Coordinating the clinical care are chiefs of service who are concurrently chair-

men of departments of the medical col-

Location The most centrally located large city in the South, Birmingham is the commercial and industrial center of Alabama. The present metropolitan population is over 600,000—the third largest in the Southeast. It is the shopping capital for a radius of 100 miles.

University Hospital is located in the heart of the Medical Center, about six blocks from Birmingham's main downtown district. As an integral part of the



Technologists in the bacteriology lab at University Hospital.



Faculty physicians make regular rounds, conduct conferences and offer diagnostic assistance and advice in management of private teaching patients and staff patients.



Skilled assistants aid residents in general surgery on operating team.



Nearly 5,000 newborn were cared for at University Hospital last year, Here, Dr. Clark Gravlee joins intern and nurse in congratulating happy mother.

city, it serves as a major health care referral center for Birmingham, the whole of Alabama and parts of surrounding states.

Birmingham is usually said to enjoy an "exceptional good climate." It has altitudes ranging from 600 feet to over 1200 feet. Mean monthly temperature of the warmest month of the year has been 80 degrees, and of the coldest month, 46.4 degrees.

Referral Center University Hospital is a 600-bed acute, general teaching hospital with patients assigned according to specialties and subspecialties. There are 90 bassinets for the care of the newborn.

Of the beds, about 250 are operated as staff beds and about 350 as private beds,

University Hospital is the primary charity hospital for the Birmingham area; a large number of referred patients from throughout the state and from the adjacent southeastern area also depend upon the staff for health care.

Last year, there were approximately

26,000 adult and approximately 5,000 newborn admissions to the hospital. A total of 193,247 days of care were rendered with an average patient stay of 7.4 days.

Outpatient activities included more than 135,000 visits to the 26 different outpatient and emergency clinics conducted daily. In the dental area, an index as to the magnitude of work accomplished by the School of Dentistry is available in the more than 40,000 patient visits made last year to the Dental Clinic alone.

Clinical University Hospital draws upon one of the most extensive and varied areas of clinical material in the country. As the largest hospital in the state and as the main referral center for the region, the hospital places major emphasis on securing and maintaining the most modern equipment for use by staff members in treating their patients.

Special services such as cardiac catheterization, blood vessel bank, bone bank, irradiation therapy, eye bank and others are maintained.



Dr. Alvaro Ronderos instructs students in positioning, using modern x-ray equipment.



Doctors utilize facilities of Medical Center Library for reference and reading.

Other Programs In addition to its large School of Nursing, University Hospital maintains schools for laboratory technologists, radiological technologists, and nurse anesthetists. A dietetic internship is soon to be initiated. Future plans call for other health discipline educational programs necessary to assist in meeting the critical health needs of the state.

There is maximum participation in the postgraduate educational programs in the medical specialties and adjunct sciences. Training programs are conducted for hospital administrators, practical nurses, and medical record library technicians.

Research Opportunities A wide range of research and investigative studies are now in progress in the Medical Center.

Upon completion of the new research building, it is anticipated that the already large program of research activities will be more than doubled. Acceptance of a grant for expansion of cardiovascular research has caused the enlargement of such programs even before construction



Dr. and Mrs. Robert Fitzgerald at home with their daughters in University Medical Center apartment.



Separate lounge facilities are available to men and women members of the house staff on the 15th and 16th floors of University Hospital and Hillman Clinic.

of the building. Use of the building will make hospital expansion possible, especially for the ancillary services.

In addition to the research program mentioned, other study activities include cancer, arthritis, dermatology, endocrinology, hematology, cardiology, neurology, ophthalmology, psychiatry, speech and hearing, and in all other major clinical areas.

Library An excellent medical library containing more than 55,000 volumes and periodicals is maintained in the Center. Under the guidance of a trained library staff, source material for study and investigation is readily available.

The addition to the main library now under construction is the first part of a completely new library building.

Dining Facilities A staff dining room is maintained adjacent to the main cafeteria on the second floor of University Hospital. The aim in this area is to provide adequate, well-prepared meals in pleasant surroundings of sufficient privacy for clinical problems to be discussed without interference.

Recreation Recreational facilities within the Medical Center proper are not extensive but there is plentiful recreation within easy distance.

Both municipal and private pools, golf courses, tennis courts, and parks are close by the Center. There are year-round scheduled football, baseball, basketball and other college, professional and amateur sports events. Lakes and streams for fishing and relaxation are in abundance in or near Birmingham.

The city offers attractive clubs for social activities.

Religion and Culture Birmingham is famous for its emphasis on religious life. Although no formal religious life is conducted as such in the Center, friendly and beautiful churches of every denomination and creed are located nearby and residents are encouraged to take part in their activities.

There is a very fine public library system; a civic symphony, art museum, theater and ballet groups, and an outstanding series of musical programs are available in the city.

THE MEN WHO MADE THE MEDICINE..

Who was Parke? What did Davis do? How about Lilly, Averst, Burroughs and Wellcome, Wyeth, Eaton, Squibb, Roche, Merck, Sharp and Dohme? Was there a Mead Johnson or was it Mead and Johnson? Who was Smith and Kline and French? What did men like Pfizer, Robins, Searle, Winthrop, Upjohn, Lederle, Bristol and Schering actually do for the companies which bear their names? Was there a Dr. Ciba? Who were the Burns Brothers? What is known about Warner and Chilcott, Abbott, White, Massengill, McNeil and others whose names appear in drug company titles? The editors of MEDICAL TIMES went looking for the answers and for the first time have brought together the fascinating, personal stories of the men who worked to establish today's pharmaceutical companies. Many never-before-published incidents in the lives of the founders of present-day drug companies are contained in these word and picture biographies. In this issue, MEDICAL TIMES brings you the first of this exclusive series of articles about the pioneers in an industry which has caused a virtual revolution in medical care and research in our time.

... Pharmaceutical Company Founders

MEET MR. WYETH

Though John and Frank Wyeth came from a fairly well-to-do family, it cannot be said that they were born with silver medicine spoons in their mouths. For they passed up family newspaper and book store interests to make their own way in the pharmaceutical field, founding the company that today is Wyeth Laboratories, a concern of international scope. The firm dates back to 1860 when the Wyeth brothers opened their retail drug store on Walnut Street in Philadelphia. John was then 26 and Frank 24, sober young men who were determined to make a success of their enterprise. When they weren't rolling pills, filling prescriptions or sweeping out the shop, they experimented with medicinal preparations to make them more palatable.

They must have obtained good results, for physicians of their acquaintance were impressed with the clarity, brightness and good flavor of their "sweetened tinctures," or elixirs. John induced a number of doctors to let his firm manufacture in quantity prescriptions which they used frequently. This led to the publication of a John Wyeth & Brother catalogue of elixirs and official preparations.

John was the promoter and businessman of the combination and the unquestioned "boss" throughout his lifetime. Frank, it appears, was satisfied with this arrange-



John Wyeth, who was president of John Wyeth & Brother from its foundation in 1860 until his death in 1907.



ment, for his interests lay in the production and technical end of the business.

If there were differences between the brothers, they certainly were not aired outside of the shop. They shrank from personal publicity, seeking privacy with the same determination they applied to their work. When John died in 1907 the obituary in the Philadelphia Ledger contained this statement: "In deference to

Mr. Wyeth's wishes, the services will be extremely private, not even the place of interment being made public."

Printer This drive to stay out of the public eye was ironic, for the Wyeths' grandfather and father had made a living as newspapermen. John Wyeth, the grandfather, was an energetic man who lived to be 88, dying in 1858. He was one of eight children of Ebenezer Wyeth Jr. (1727-1799), whose brother Noah had the distinction of having helped dispose of the tea in the famous party in Boston harbor.

Ebenezer and Noah were descended from English settlers who spelled their names variously as Wyth, Withe, Wythe and Wyeth. (Probably the George Wythe whose signature helped bind Virginia to the Declaration of Independence was related to the Wyeths.)

The Wyeth branch of the family settled in Cambridge, Mass. John, the grandfather, served a printer's apprenticeship in Boston, and from there moved on to the Caribbean, to Santo Domingo (now the Dominican Republic.) He was foreman of a printing plant there when he was forced to flee, disguised as a sailor, during a native uprising.

In 1792 John Wyeth and another man bought *The Oracle of Dauphin County*, a newspaper in Harrisburg, Pa. In time he also became a book store owner and real estate operator. (Like his





Frank Wyeth, John's brother, who was part owner of the business from 1860 until his death in 1913.

grandson John, he must have been an aggressive man who could fix his eye on a goal and reach it.) His son Francis (1806-1893) took over these enterprises.

Thus the family was well established when Francis' sons were born in Harrisburg, John on May 4, 1834 and Frank on July 14, 1836. Though they did not take to the newspaper business, John in later life bought an interest in the *Philadelphia Record*.

They received formal training as druggists at the Philadelphia College of Pharmacy, John graduating in 1854 and Frank attending in 1857, but without getting a diploma.

Retail Store John, according to old

accounts, worked for a while for Thomas A. Scott, a railroad man who was to become the fourth president of the Pennsylvania Railroad. It is thought that John was employed as a surveyor, a stint probably sandwiched in between his graduation from pharmacy college and his start as a druggist. This was as the partner of Henry C. Blair in a retail pharmacy in Philadelphia. Frank also got his start here by clerking in the store.

In 1860 John sold his interest and founded John Wyeth & Brother, setting up shop at 1410 Walnut Street, a location that is part of the site of the present day Bellevue-Stratford Hotel.

This was a time of change and expansion in Philadelphia. It was growing in population and in importance as a commercial center, both factors auguring well for new enterprises. On the other hand, there was the unrest caused by the growing split between North and South. Many of the half million residents of the City of Brotherly Love felt no affection for fellow Americans below Mason and Dixon's line.

When war did come, it had an effect both on the new business and the personal life of Frank Wyeth.



Maxwell Wyeth, son of Frank, who assisted his father in the laboratory for a number of years. A disagreement with his cousin, Stuart, caused his retirement from active participation.

The brothers supplied substantial quantities of medicines to the Union Army. This was not without its problems, for narcotics, quinine and other drugs frequently were stolen in shipment by black marketeers who resold them at high prices to the government. According to his nieces (who supplied material for this article), Frank himself guarded a shipment when the regular dispatch officer became ill, with the result that he and his wife received threatening notes from the frustrated thieves.

Virginia Belle Frank's wife was the former Henrietta Braxton Horner, a pretty Virginia belle. We know something of their courtship because, unlike the reticent Wyeths, Henrietta put her experiences down on paper. A beautiful and vivacious young lady, her account of this period of her life remains a valued family possession.

She and her brother were visiting an aunt in Philadelphia when she was introduced in 1858 to Frank Wyeth, who was then clerking in Henry Blair's drugstore. "This acquaintance," according to Henrietta, "ripened into friendship."

During the next few years she made many trips between Philadelphia and Mountain View (Fauquier County), Virginia, where she lived with her family. In 1861 she came to Philadelphia for an operation on her eyelid. While she was recovering and enjoying Frank's company, Fort Sumter was fired upon. Philadelphia, along with other Northern cities, became most inhospitable to Southerners. To demonstrate his loyalty, Alfred Horner, Henrietta's cousin with whom she was staying, was made to fly the U.S. flag outside his house.

Accepting Frank's proposal of marriage, the romantic Henrietta wanted to get the ceremony performed at her home in Virginia. But at this stage of the war, the bridge over the Potomac was manned against possible invasion

from the south, making it next to impossible for anyone to travel to Virginia.

Sees Lincoln The determined Henrietta tried to get official permission to pass through the lines. She went to see Secretary of State Seward in January, 1862. Refused permission, she took her

Their Own Lives

In the long ago, when doctors had time to read all their mail in the morning, the Wyeths of Philadelphia carried on a prosperous business without ever getting their pictures in the paper or writing a biography. They felt their lives were their own.

Now that all the Wyeths who had anything to do with the drug business have long since passed on, a biographer would get the impression of several Prince Albert-coated, distinguished looking ghosts conferring among themselves and looking displeased at this unseemly interest in their lives.

Old, yellowed newspaper files that tear and disintegrate unless handled with scrupulous care are still on file at the Free Library of Philadelphia. The obituary notices of the Wyeths can be found there. They have all the earmarks of having been painfully extracted by persistent reporters from reluctant business associates and relatives. What these "obits" did not tell was learned by talking to kindly and cooperative members of the Wyeth family and to a few old-time Wyeth employees who remember the Wyeth founding fathers.

case directly to President Lincoln.

He, too, refused her request, but treated her with courtesy and understanding. As a result he became in her mind an object of veneration, whereas before she had hated and feared him.

Resigned to a "Yankee wedding," Henrietta wrote her family and received their blessing by mail. She and Frank were married at Holy Trinity Church in Philadelphia on February 20, 1862.

Little is known about John Wyeth's marriage except that his bride was the former Sadie D. Stewart, who gave birth to a son, Stuart, on October 17, 1862. She was said to be a beautiful but unhappy woman, and though John built her a handsome house in Washington, D.C., she spent most of their married life in Paris. Perhaps it was this disappointment that caused John to pour himself into his work.

The firm prospered. The floors above the Walnut Street store were acquired to provide room for more manufacturing operations. To further expand the business, John Wyeth took samples to Boston to detail doctors on the Wyeth line of drugs.

New Plant When additional capital was brought into the firm by another pharmacist, Edward T. Dobbins, the retail operation was sold to a man named Morgan, and John Wyeth & Brother confined their activities to manufacturing and wholesaling. John owned at least 50 percent of the stock, Frank and Dobbins the rest.

A fire which started in the basement of Morgan's store destroyed the entire building in 1889. The Wyeths relocated at 11th and Washington Avenue in Philadelphia, while Morgan set up shop on Walnut Street.

Now with ample space for manufacturing, the Wyeth firm was ready to explore the development of new pharmaceutical products. Up until this time they had been best known for their compressed and coated tablets; to produce them, they had devised their own secretly engineered presses and pans.

Most of the equipment not destroyed by the fire was gradually rebuilt and modernized, and one 19th century rotary tablet press was until recently still in operation at Wyeth's Philadelphia plant. (It was donated to the Smithsonian Institution in Washington, D.C., where it is now on display.)

Herman Wipf, a Swiss pharmaceutical engineer, was brought to this country by John Wyeth to superintend the production of new types of pharmaceutical specialties. Under Wipf's direction the first glycerine suppositories made in America were added to the line; also a large assortment of effervescent salts and gelatin capsules.

As was common in the industry, an aura of secrecy surrounded the manufacturing operations of the Wyeth firm. Employees were not encouraged to learn what went on in the next department, and thus trade secrets were kept from competitors.



Principles John Wyeth & Brother became one of the most successful and highly regarded concerns of its type in America. And in the process John and Frank acquired wealth, including patrician homes on and near Rittenhouse Square. But John never pursued profits at the cost of principles. Like his father and grandfather, who had supported the Democratic cause in their Harrisburg newspaper, John was an exponent of free trade, even when it hurt. He was in the forefront of the campaign to abolish the import duty on quinine, and when this came about, the Wyeth firm sustained a serious loss. John accepted this without complaint.

During the last few decades of his life John came to work in a carriage manned by a coachman and a footman. This was in keeping with the timesaround the turn of the century the ownership of a coach house and stable were essential attributes of the successful man. He had at least two coachmen whom his nieces remember as Big John and Little John. One of them, John Malone, was still in Wyeth service in the 1920's, driving a mule team for Stuart (son of John Wyeth) between the factory and the docks. Though trucks delivered most of the freight, John Malone and his mules remained a reminder of bygone days.

John Wyeth was a formidable man at the peak of his success. He was sharp of eye, sported a spiked mustache, and his customary business attire consisted of frock coat, striped trousers, and a flowing tie of either light blue or light yellow. A top hat completed his elegant dress. Mushrooms His office was dominated by a large roll-top oak desk. Nearby stood a long table at which his son Stuart worked, learning the business under his father's tutelage.

John lived in a quiet fashion. On weekends he often went to Atlantic City, where he had a house. Occasionally he went to Europe. If he had a hobby it was growing fancy mushrooms and other vegetables at his farm at Westtown, Pa. He died on March 30, 1907, at the age of 73, the same extreme reticence attending his cremation and burial as had attended his life.

Frank Wyeth was somewhat more colorful than his older brother. Though he lived in a style appropriate to his position, he was an unpretentious man who didn't mind getting his hands dirty. One day during his early years in the drug business, his pretty wife sailed into the plant and approached a man busily engaged in cleaning up the back room.

"My good man, where can I see Mr. Frank Wyeth?" she asked. She burst into laughter when the man looked up. It was Frank.

Homebody Frank was a confirmed homebody and family man. (This was in contrast to John's lack of family life—his wife was conspicuous by her absence. It is said she died abroad, of deranged mind.)

Frank went home for lunch every day. In the afternoon he spent several more hours at the plant, leaving a little before closing time for his daily visit to the Union League Club, of which he was a charter member. He was usually home for dinner at six, and took his



This 19th century rotary tablet press recently was presented to the Smithsonian Institution for its Gallery of Phermaceutical History. Shown with the machine are (left to right): John D. Cash, Wyeth vice president in charge of production; George B. Griffenhagen, curator of the Smithsonian's Division of Medical Sciences, and Herbert W. Blades, president of the pharmaceutical firm.

family for a carriage ride if the weather was good. On Sundays they attended the Holy Trinity Episcopal Church.

Frank's nieces like to recall Thanksgiving dinner at the home on Rittenhouse Square. Not only were the turkey and pies wonderful, but there was a \$5 bill under each child's plate.

After John Wyeth's death in 1907, his son, Stuart, became president, while Frank continued as vice president until his death in 1913. Edward Dobbins had died a year before John, and had sold his interest in the firm long before then.

More Leisure Frank's son Maxwell (1865-1937), who graduated from the Philadelphia College of Pharmacy in 1888, was employed for a number of years as his father's assistant in the laboratories. He was a minority stockholder. He didn't get along well with his cousin, Stuart, and gave up active connection with the company after his father's death.

Stuart and Maxwell had the advantage of coming into a thriving concern that had been created from nothing by unremitting application on the part of their fathers. The sons enjoyed a great deal more leisure than their fathers, and they both took advantage of it.

Stuart, who never married, spent a great deal of his time in Paris, London and New York. His mother's fondness for Paris had no doubt made an impression on him. While Stuart was away he was able to entrust the business to conscientious employees.

Stuart's education was not in pharmacy. After graduating from Harvard College in 1884, with an arts degree, he studied law at the University of Pennsylvania. Among old-time and retired employees, Stuart is remembered as somewhat of a mystery man. Some think of him as an unapproachable autocrat, while those who had closer contact remember him as an austere but kindly gentleman who would recognize the loyalty of employees with thoughtfulness and generosity.

One of Stuart's idiosyncracies is re-



membered by all: the white cotton gloves that he wore in the laboratory and the tan capeskin gloves he had on in the office. They were supposed to serve as protection against germs and contagion.

Stuart Wyeth died of a heart attack on December 31, 1929, in his apartment at 1830 Rittenhouse Square, at the age of 67. He left the bulk of his estate, including a controlling interest in the firm of John Wyeth & Brother, to Harvard University.

For a few years the company was operated under Harvard ownership. In 1932 it was purchased by American Home Products Corporation, of New York, which continued it for several years under the old family name before combining it with several other ethical subsidiaries under the name of Wyeth Laboratories. From this point on, the Wyeth business acquired the sinews of modern technology.

Excellent research facilities were organized; highly competent personnel employed. The company, which under the old regime had slipped back from its high position in the industry, became again one of the outstanding pharmaceutical manufacturers in the United States.

Through its world-wide affiliate, Wyeth International Limited, the company now has 23 foreign manufacturing plants and sales organizations in more than 50 countries, including Mexico, Brazil, Canada, France, Italy, Australia and India. Wyeth today has United States manufacturing facilities in Philadelphia, West Chester, and Marietta, Pennsylvania; Chicago; Mason, Michigan, and Meridian, Idaho. It has one of the largest sales organizations of its kind in the country.

The executive offices and headquarters for the Wyeth Institute for Medical Research are located in a modern building on a large tract of land in Radnor, Pennsylvania. There, in a glass case in the lobby, can occasionally be seen some of the yellowed documents that hark back to the days of John and Frank Wyeth, who would no doubt rub their eyes in wonder if they could see today the impressive growth of the business they started just before the Civil War.

NEXT MONTH:

Hervey C. Parke
and George S. Davis — and their
"upstart company from out West..."



Prepared especially for Medical Times by C. Norman Stabler, market analyst of the New York Herald Tribune

INVESTING

for the Successful Physician

The first quarter is drawing near its close and again we find the subject most discussed in financial circles the future trend of business. Three months ago, when publications were crowded with year-end predictions of economists, prognosticators and ordinary Joes, majority opinion was that the first half would be bad but that business would start to boom in the second half.

At this juncture, after digesting a few bundles of data received from the best known observers of the economic scene, it appears to the writer that the only amendments to be added to the above two predictions are that each should be worded in more conservative language. By that we mean the word "bad" for the first half and "boom" for the second half, probably err by each being too extreme.

Stated another way, we can call the current slump in business a recession, but not a depression, and indications are the next half year will show improvement but probably not a boom.

Just as an aside, someone the other day asked for a delineation between the meanings of the words recession and depression. What is the dividing line? His friend explained: "If your neighbor loses his job, that's a recession; if you lose your job, it's a depression."

The balance sheet of the moment shows plenty of uses for red ink. Unemployment is a case in point. The trend last month continued to show more workers seeking jobs than there were jobs to be filled. Early in the month Secretary of Labor James P. Mitchell forecast the February unemployment figure would exceed 4,000,000. At mid-January it was 4,494,000, or 5.8 per cent of the civilian working force. He was more optimistic about the current month, and next, and forecast a decided improvement for May and June.

Consumer purchasing has held up remarkably well, despite growing unemployment. Economists, for the most part, are also speaking cheerfully of the extent to which inventories have been reduced. When plants and people find the cupboard running bare, they must re-enter the market. We may be near that point.

The heads of the two largest steel companies in the world, United States Steel and Bethlehem Steel, appear convinced that with respect to their basic industry the country has sufficiently liquidated its inventory. They did not predict an immediate upturn, but they viewed the future with confidence.

Roger M. Blough, Big Steel's chairman, for instance, said he didn't expect this quarter's operating rate to be high but after the first quarter, "it is not unreasonable" to expect a steady upturn. "Things have a way of rounding out and gradually coming back. We are somewhere in that saucer shape."

Arthur B. Homer, Bethlehem's president, said the industry is getting ready to go ahead again after suffering both a decline in demand and rapid depletion of inventories by its customers. "Let me tell you," he said, "when the industry comes back, it is going to come back hard."

Factors which could start industrial companies replenishing their stocks of steel, and other basic materials, include road building and defense spending. In addition the automobile industry, which has been holding back, traditionally takes more steel in the Spring than in the first quarter.

The men who do the purchasing for business and industry however, are still remaining cautious. They are the industrial purchasing agents, whose judgment in stockpiling inventory or letting it run off, has much to do with the success of their respective firms.

A recent issue of "Purchasing Magazine" indicated they are still more pessimistic than they were a year ago. Only 32 per cent felt that business will improve this year, against 64 per cent who predicted a business upswing in 1957. The magazine noted that even more significant, in its direct impact on the economy, "is that only 39 per cent of the agents plan to increase their volume of purchases this year." In 1957 approximately 62 per cent indicated they would step up their purchasing volume.

Far more optimistic is Dr. Marcus Nadler, consulting economist to The Hanover Bank, New York, and his record of prognostications in previous years have been highly successful. The probable trend of the economy in the months ahead, in his opinion, will trace a course as follows:

- During the first half of the year business activity will decrease, unemployment will rise, inventories will be reduced and repayment of consumer debt may exceed new borrowing.
- This decline will be followed by a period of relative stability.
- Toward the end of the year, business activity will begin the upward swing that will bring it to higher levels than ever before.

Dr. Nadler notes that both strong and weak factors are at work in the economy. Among the former are high personal disposable income, the satisfactory level of construction, the increasing availability of bank credit and the essential soundness of the economy as a whole.

Weak factors include declining corporate capital expenditures, lower consumer spending for durable goods, and the psychological effect of the people of a rising trend in unemployment.

More important than any basic economic forces in determining the degree and duration of the present downward trend will be the attitude of the people at large, the economist states. He charges the government with the responsibility for dispelling any fear that the country is headed for a serious depression.

"Prompt measures taken by the government—and especially by the monetary authorities—can change the outlook of the people and of management and thus exercise a powerful influence on the course of business," he points out.

The economist warns against any "panicky measures" or "massive intervention" on the part of government.

If, under the political pressure of an election year, Congress were to appropriate huge sums to help business, the fears of inflation would be revived, he states. As a result, we would see a renewal in the desire to hedge against the consequences of inflation, thus bringing back the conditions against which the Reserve authorities have fought during the past two years, Dr. Nadler cautions.

THEY LIKE DIVERSIFICATION

Tri-Continental Corporation, largest of the diversified closed-end investment companies in the country, notes with pride in its annual report that it is leading the parade, among stocks listed on the New York Stock Exchange, in the matter of new purchasers among those who use the monthly investment plan.

This plan, conveniently known as M.I.P., provides facilities through which any investor, usually a small one, can

	NUMBER 12/27/67	OF PLANS 12/28/56	NUMBER OF NEW PLANS	PER CENT
GENERAL ELECTRIC	3,565	3,256	309	9.5
GENERAL MOTORS	3,190	2,693	497	18.5
DOW CHEMICAL	2,420	2,230	390	17.5
STANDARD OIL (N.J.)	2,507	1,924	. 883	30.3
SPERRY RAND	2,101	1,821	200	15.4
TRI-CONTINENTAL	1,854	1,215	639	52.6
RADIO CORPORATION	1,733	1,739	(6)	-0.3
AMERICAN TEL & TEL	1,503	1,364	139	10.2
PHILLIPS PETROLEUM	1,234	750	494	64.5
AMERICAN AIR LINES	886	807	79	9.8

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In the canyons of Wall Street where, it is mistakenly alleged, millions are tossed around like confetti, interest attaches to the choices of those who have adopted the M.I.P plan of saving and investing. What stocks are favored by this hard core of small investors?

Past records indicate they have displayed a definite preference for the blue chips of American industry. The socalled "cats and dogs" have virtually been out of the race.

Tri-Continental, proud of its diversification, justly points to an increase in its popularity within the M.I.P. set-up as an indication these investors also like diversification with blue chip categories.

Since M.I.P. was launched in 1954, Tri-Con has been well up in the running. As between the close of 1957 and the close of 1956, it was the chosen investment in 639 new plans; that's more than for any other. It is sixth, among those listed on the Big Board, with 1,854 individual investors buying its shares on the partial payment plan.

The table on page 115a shows the ten stocks most frequently used in the monthly investment plan.

ATOMICS FOR FOOD

There may come a time when you will lean on atomic radiation to preserve the food you eat. We won't go so far as to say that the refrigerator manufacturers are going out of business, but Professor Reid T. Milner, head of the Food Technology Department of the University of Illinois, recently made such a prediction on atomic radiation at a conference on restaurant management.

He stated that radiation of foods provides a means of destroying bacteria and other micro-organisms without the use of heat, thus preserving texture and flavor.

The first use of radiation for commercial foods will be as a "pasturizing" treatment, to prolong storage life of foods but not leave them sterile, he said.

Extensive tests have proven that consumption of radiated foods is in no way harmful to persons who eat them, he added.

Another new food process, likely to come into general practice "very soon," Prof. Milner said, results in "dehydrofrozen" foods. Dehydrofrozen foods, which are frozen and then completely dried, provide a product which can be stored for long periods at room temperature, he said.

EVEN AS YOU AND I

Mutual fund men will tell you that their industry has a fund to fit any need. If you are the carefree type, they have just the vehicle for you. On the other hand, if you have been accustomed to putting your spare dollars in a mattress or in the tin cup behind the stove, they have a conservative fund that will pay you back, dollar for dollar.

In between is a kaleidoscopic array of funds, balanced as to investments in dollar obligations and growth equities.

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Hoffmann-La Roche Inc Nutley 10, New Jersey There is also a plethora of special funds, in case you wish to take your chances with the chemicals, electronics, automobiles, wonder drugs, or the companies operating in California, Texas or Timbucktu. You name it; they have the fund you want.

What has been their experience over the last year or so? We judge from a survey published by the magazine "Trusts and Estates," that "on the average" they have fared just about as well as the market as a whole.

Funds give you diversification. They also give you professional management, which can prosper or err, even as you or I.

An index of their performance over recent years, leading to the close of 1957, was recently published by the above magazine, as prepared by Henry Ansbacher Long, a writer of distinction and a man who likes to dig back into records.

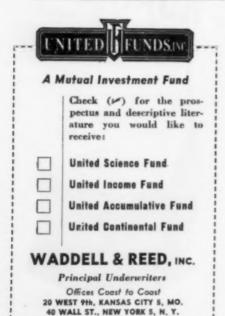
He found that individual company performance showed wide variations. That is hardly surprising. Generally the performance paralleled the market's action.

According to Mr. Long there was imperceptible correlation between a fund's classification in the balanced or common stock category and its ability to conserve principal values in the longer two and one half year period, although the former average registered only a 9 per cent decline against one of 14 per cent for the equity funds during the latest twelve months.

Several companies which had relatively poor performances during this period had outstanding records, however, during the 18-year span commencing on December 30, 1939 which is used as his index base. At the year end the index indicated an increase of 1131/2 per cent in the principal value of balanced funds and an average growth of 172 per cent for common stock companies. Also noteworthy was the jump in the effective annual rate of return from income dividends for the balanced funds over the last year to 3.51 per cent as contrasted with 3.15 per cent twelve months earlier.

FOREIGN TRADE OUTLOOK

Foreign trade of the United States, and American investment abroad, are expected by the National Foreign Trade Council to be somewhat lower this year than in 1957, and will probably be about on a par with the "very good" year of



1956. The Council is made up largely of economists who work for firms dealing in various phases of foreign trade and investment.

The group predicted exports will drop slightly below \$18 billion from the \$19,300,000,000 of 1957 and imports will decline to \$12,600,000,000 from \$13,200,000,000 last year.

It is said the balance of payments in 1958 is expected to result in an accumulation of gold and dollar reserves abroad of \$700 million. The estimate for private American investment abroad was placed at \$2,500,000,000 against \$3 billion in 1957.

The Council said its expectations for both export and import expenditures on transportation, travel and miscellaneous services, of \$3,800,000,000 and \$3,500,000,000, respectively, would see these categories holding fairly close to the levels attained last year of \$4,100,000,000 and \$3,600,000,000.

The Council's forecasts assumed no major adverse change in the world political situation during 1958, the carrying out of projected defense programs and a further downswing in business activity, at least through the early part of the year.

RESEARCH TO THE RESCUE

By and large economists do a good job of forecasting. Even when they disagree with each other they are able to view their points of difference realistically. In the matter of housing, discussed above, for instance, some may not regard the baby crop of the nineteen forties as an important factor as do others.

Moreover, all economists have to take

into consideration the matter of public psychology. That is a field that defies mathematical exactitude. One can do a fairly commendable job figuring: if so many automobiles are built, there will be a demand for such and such a tonnage of steel; if so many miles of highway are built, we'll consume so many tons of cement; and, if we can reduce unemployment to this or that figure, we sell so many more million dollars worth of goods over store counters.

Imperfect though such calculations may be, they appear as accurate as the plotting of the Earth's orbit in comparison with calculations on what masses of people will take it into their heads to do.

This brings up the matter of new products, literally hundreds of them, which are the products of research. Many of them are but dreams, others are on

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How will they be received by the public? There are no past figures on which economists can base their predictions. We'll have to wait, and see how they appeal to the masses.

The fact remains that many economists are convinced the introduction of new products will furnish the key for our next great boom—not only through a stimulation of demand, but through the creation of jobs. Industry is going ahead on this assumption.

Industry is spending for research, and it is research that keeps the birth rate high in new products. These products mean the construction of new plants and new machinery. Men are needed to build, advertise and market them.

Conrad Jones, a partner of the management consultant firm of Booz, Allen & Hamilton, expressed the view recently that emphasis on expansion, and the sale of new products, holds the key to reversing the current slump in business.

"One of the great hidden sources of strength in the economy is the vast number of new products which will be making an appearance in the next few years," he said. "Half of our industries expect 80 per cent or more of their sales growth by 1960 to come from products not sold in 1956." The chemical industry alone, he added, plans to introduce more than 400 new products this year. Supermarkets report that

about 24 new products a day are being offered to their customers.

W. Alton Jones, Chairman of Cities Service Co., said industry will have to spend \$20 billion in 1962 for plant, equipment and products "growing out of 1957 research alone."

Research expenditures by private industry hit a record high of \$7 billion in 1957 and are expected to swell to \$9 billion by 1960.

While many companies this year are expected to cut their expenditures for plant expansion and modernization, a recent McGraw-Hill survey showed that 95 per cent of the companies queried plan to spend as much or more for research in 1958.

Standard & Poor's said the inevitable result will be a host of new products that "will stimulate consumer demand and expenditures for new plant and equipment."

Standard noted that the stage already has been set for a new boom in the 1960's, sparked by a growing population, mounting per capita demand for goods and services, and industry's efforts to stimulate that demand by introducing new products. Just a decade ago industry was spending only \$2,500,000,000 for research.

Industry officials estimate that there is a lag of between 5 and 7 years from the time research is begun on a new product and the time it goes into commercial production. This means that the impact of research now being started will be felt in the 1960's. However, many new products will reach the consumer this year.

Some companies say as much as 50 per cent of their annual sales now come from products that did not exist 15 years ago.

The information set forth herein was obtained from sources which we believe reliable, but we do not guarantee its accuracy. Neither the information nor any opinion expressed constitutes either a recommendation or a solicitation by the publisher or the authors for the purchase or sales of any securities or commodities.



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LOS ANGELES

(Vol. 86, No. 3) March 1958

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AUTO INDUSTRY AND HOME CONSTRUCTION

The number of us who will buy a new automobile this year, or start the construction of a new home, and the amount we are willing to spend, will have a direct impact on the steel industry as well as virtually all others. To say there is a big question mark beside each, is to state the obvious.

Both industries are looking forward to Spring, with its flowers and green grass, mild weather and clear skies, that will make mother and the kids self-appointed selling agents to persuade the head of the household he should have the best, the quickest. Spring may do it, but at the moment the figures are not too encouraging.

One thing that will work against the sale of 1958 model autos is that the industry turned out an unusually large number of last year's models shortly before introducing 1958's product. To some extent it borrowed from this quarter's probable business.

Last year's sales to consumers ran between 5,800,000 and 5,900,000 units, and the industry produced some 250,000 more vehicles than it was able to deliver to customers. In view of the lower level of business in the first quarter, it is conceivable this year's overall sales may have to be reduced ten per cent from the 1957 figure. If so, the cutback in production will doubtless amount to more, to care for the carryover of old models, say to 13 per cent from 1957's total.

Housing should be a support, as should public works, including the highway program. In the case of the latter it must be noted there is a stretchout. High material and labor costs are a deterrent.



All types of building, whether homes, highways or high schools, stand to benefit from easier rates for money. Mortgage money is more available, and of the factors which make the head of a family start to build a home, that is an important one.

The magazine "Business Week" is among the optimists on housing starts, terming it "an oasis of stability" in the 1958 economy. It looks for at least 1,000,000 starts this year, and perhaps 10 per cent more than that. It sees easier and cheaper credit as the big plus on the asset side, while on the liability side we must consider lower incomes, greater unemployment and hesitancy on the part of consumers because of the business recession.

There are conflicting views on the housing outlook, and one that is far more pessimistic than the above stresses the matter of the birth rate of twenty to twenty-five years ago. Economists figure the number of children born in the thirties will have much to do with

home formations of the present fifties. It's a little late for us to do anything about that. Easier money won't help, in that respect.

The average number of births in the thirties was a little more than 2,400,000 a year. That may sound like a lot of babies, but consider the fact that the young couples of the mid-twenties, and again of the forties, were more conscientious in this regard. In the former they produced nearly 3,000,000 babies a year, and in the forties they topped that figure.

Considering the crop of the Forties, economists tell us we'll have to wait until the sixties before we can expect any great surge in marriages and the production of new customers that will result. It is they who make additional home starts a must for more husbands. Those who lean heavily on these figures believe the estimate of a million new home starts this year is on the high side, and that we'll do well if we can maintain 1957's rate.

Guide For Investors

Based on recommendations of the Securities and Exchange Commission in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.

- 1. Think before buying, guard against all high pressure sales.
- 2. Beware of promises of quick spectacular price rises.
- 3. Be sure you understand the risk of loss as well as the prospect of gain.
- 4. Get the facts—do not buy on tips or rumors.
- 5. Give at least as much thought when purchasing securities as you would when

- acquiring any valuable property.
- Be skeptical of securities offered on the telephone from any firm or salesman you do not know.
- 7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects. Save all such information for future reference.

HIGH POTENCY/LOW SEDATION

CHALLENGES COMPARISON

ON ALL COUNTS ...

Ayerst's new

GROUP 4 ANTIHISTAMINE "THERUHISTIN"

Brand of Isothipendyl hydrochloride

- 1 HIGH POTENCY = 92% effective in 602 cases¹
- 2 LOW SEDATION 99% free of drowsiness1
- 3 WIDE RANGE effective in various respiratory and topical allergies¹
- 4 LOW DOSAGE a average daily dosage 8 mg. in 602 patients1
- 5 NO TOXICITY no report of toxic effects in 2,686 cases 1-3
- 6 LESS RESTRICTIVE negligible limitation against patients' driving or operating machinery

On all counts ... Group 4 "THERUHISTIN" is unmatched by antihistamines in Group 1 (low potency/low sedation), Group 2 (moderate potency/moderate sedation), Group 3 (high potency/high sedation).

Supplied:

"THERUHISTIN" Tablets, 4 mg., bottles of 100 and 1,000. Syrup, 2 mg. per 5 cc. (tsp.), bottles of 16 fluidounces. Dosage: Adults, 1 tablet or 2 teaspoonfuls (4 mg.) two to four times daily. Children, ½ to 1 teaspoonful, or ¼ to ½ tablet (1 to 2 mg.) two to four times daily.

"THERUHISTIN"-S.A. Sustained Action Tablets (up to 12 hour control with one tablet), 12 mg. per tablet, bottles of 100 and 1,000. Dosage: 1 tablet on arising; repeat every 8-12 hours as necessary.



AYERST LABORATORIES

New York 16, N.Y. . Montreal, Canada

 New and Unused Therapeutics Committee, Am. Coll. Allergists: Interim Report at Thirteenth Annual Congress, Mar. 20-22, 1957, Chicago, Ill., Ann. Allergy, to be published. 2. von Schlichtegroll, A.: Arzneimittel-Forsch. 7:237 (Apr.) 1957. 3. Spielman, A. D.: New York J. Med. 57:3329 (Oct. 15) 1957.

About Investing

Q. I have had a few shares of Endicott Johnson for several years and while the yield at present prices is satisfactory, I am wondering about switching into something faster. What is your opinion?

A. Endicott Johnson makes shoes and is doing better. Why try for a silver slipper? The new slipper might slip. The company you are in has been paying a dividend for many years and is the second largest in its field. It has a strong financial position and its outlook is for a gradual improvement in earnings.

Q. A friend suggested I buy some Colgate-Palmolive. How has the company been doing?

A. It has been doing very well, and the stock has already had a considerable rise, because of the recent preference for shares of companies in consumer lines as against those in the heavier industries. Last year was a highly successful one for Colgate. It has improved its position in the household cleaner field and is doing well with its foreign operations.

• Do you look favorably on Magnavox?

A. On its products, yes. It is an important member of its industry and in

the trade it gets high praise for its merchandising methods. The stock must be regarded as a business man's speculation, but a worthwhile one. Its net income shows a tendency to improve.

Q. What views do you have on Sears Roebuck?

A. Retailing companies have been doing better. Sears' earnings have shown no great change recently, but in the meantime its stock has been sold down to a level where it has more appeal for investors. Its record in the industry is tops, and in the Street it is regarded as an investment-type situation.

Q. I have held a few shares of General Tire, while they went up, and then down. Should I hold them?

A. The tire outlook, contrary to what it was a few months ago, is not too favorable. Automobile companies have been slow to give orders on original equipment, and the replacement demand also has been below expectations. General Tire has the advantage of its interest in Aerojet, which has been doing well, but there is a question how much this one subsidiary can do for the parent company.

Q. Would you express an opinion on Texas Gulf Sulphur?



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INFANT FEEDING SERVICES

"Your Baby Book"
"Modern Infant Feeding"
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Concentrated Liquid

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for sound infant nutrition



Philadelphia 1, Pa.



This severtisement conforms to the Code for Advantaging of the Physletter Country in Information on Child Health.

- A. American sulphur producers suffered when lower-cost Mexican producers upset the world market. Texas Gulf, along with others, ran into expensive operations in its offshore work, and a couple of months ago reduced its dividend to an indicated \$1 annual rate. The best we can see for it this year is a very modest improvement in sales and earnings.
- Q. I am inclined to speculate in Textron. What do you think?
- A. I'm glad you said "speculate," because if you buy it, that's what you'll be doing. The best thing about it is that it has broadened its operations in the non-textile field, to the point where they account for about 75 per cent of its sales. This diversification could help the stock, but personally I'd rather someone else found out.
- Q. Would you recommend the purchase of Canadian Pacific?
 - A. It is an aggressive railroad. What

LITERATURE OF THE MARKETPLACE

Financial houses issue a wealth of studies, surveys and comments on various industries and companies. The following are among those that have come to hand recently:

SUBJECT

Investments in titanium Middle South Utilities, Inc. American Petrofina Co. Rheem Manufacturing Co. Safeway Stores Wilcox Oil Co. The South on the March Franklin Life Insurance Co. National Gypsum Co. The Natural Gas Industry Philip Morris, Inc. Hazeltine Corporation Royal Dutch Petroleum Walworth Company Bausch & Lomb Optical Co. Colgate-Palmolive Foremost Dairies, Inc. North American Aviation Columbia Broadcasting System Electric utility stocks Kentucky Utilities Co. American Viscose Co. Cook Electric Co. International Bus, Machines

ISSUING FIRM

Bregman, Cummings & Co. Eastman Dillon, Union Securities duPont, Homsey & Co. Coffin & Burr Halle & Stieglitz Blair & Co. Thomson & McKinnon Wiesenberger & Co. Green, Ellis & Anderson Sartorius & Co. Walston & Co. Hayden, Stone & Co. Treves & Co. **Butcher & Sherrerd** H. Hentz & Co. Paine, Webber, Jackson & Curtis Reynolds & Co. Bache & Co. Fahnestock & Co. Ferris & Co. Kidder, Peabody & Co. Harris, Upham & Co. Eisele & King, Libaire, Stout & Co. Carl M. Loeb, Rhoades, & Co.

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allergic and inflammatory dermatoses retreat promptly under cover of

Meti-Derm

ECZEMATOUS DERM.

after

M.S.-ECZEMATOUS DERM

Schering

ARRESTS ITCHING, INFLAMMATION, SWELLING

infantile eczemas adult contact dermatitis eczematoid dermatitis neurodermatitis nonspecific anogenital pruritus

Meti-Derm cream 0.5%

"Meti" steroid topical

encourages healing-may be used also to supplement systemic corticosteroid therapy in the more extensive and widespread lesions

GUARDS LESIONS VULNERABLE TO BACTERIAL INVASION

Meti-Derm® Ointment with

"Meti" steroid - antibiotic topical

-unsurpassed antibiotic effects against the common invaders of allergic dermatoses plus "Meti"steroid benefits

- formula Each gram of METI-DERM Cream contains 5 mg. (0.5%) prednisolone, free alcohol, in a water-washable base. METI-DERM Ointment with Neomycin contains 5 mg. (0.5%) prednisolone and 5 mg. (0.5%) neomycin sulfate in a white petrolatum base.
- packaging Meti-Derm Cream 0.5%, 10 Gm. tube. Meti-Derm Ointment with Neomycin, 10 Gm. tube.

METI-T. M. - brand of corticosteroids.

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FALVIN FEATURES AUTRINIC—the new, highly active Intrinsic Factor Concentrate that promotes intestinal absorption of Vitamin B_{12} , resulting in serum B_{12} levels significantly higher than those obtained with Intrinsic Factors now in common use or Vitamin B_{12} alone

HIGHER SERUM \mathbf{B}_{12} LEVELS FOR A BETTER PATTERN OF RESPONSE IN ANTI-ANEMIA THERAPY

THERAPEUTIC for anemia due to deficiency of recognized hemopoietic elements SUPPORTIVE where anemia is associated with other pathology PROPHYLACTIC in marginal deficiency states which may predispose to clinically

Each capsule contains:

FALVIN WITH AUTRINIC-INTRINSICALLY BETTER IN ANEMIA

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LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, N. Y.

the stock will be worth in the near-term or long-term future, depends on the prosperity of Canada, of which it is a vital part. It has suffered recently from slower business there, in line with the decline here. It has large interests in things other than railroading, and it is wide awake.

Q. In view of the Earth satellite, and the scientific changes that are announced almost daily, what stock would you recommend I buy to participate in what is ahead?

A. None. If I knew, by this time I would have mortgaged the old homestead and bought it all myself. That there are big winners on the list goes without saying, but the situation changes so rapidly and has so many pitfalls, I'd rather you'd get their names from someone else. When a new scientific development is announced, the newspapers usually name the companies that participated in the project. That's one way of making a guess.

Q. Does H. J. Heinz appeal to you?
A. It's fifty-seven varieties do, and I like the company. I don't see anything spectacular in the offing for its stock. It gets about 60 per cent of its earnings flow from its foreign operations. Marketwise it presents a minimum risk and a fair income.

Q. I have a few shares of Texas Co. Should I hold them? A. For the moment at least the oil industry is plagued with over production. This has been reflected in the market for all oil shares. However, as you already own Texas, the chances are you should maintain your position. This company is the second largest producer of oil in this country and it has a major foreign interest. Net for 1957 is estimated at \$6.10 a share, which would mean a gain of 11 per cent over the previous year. The company's growth in earnings has consistently been better than the industry as a whole. It is an investment-type stock.

Q. Is there anything new on Universal Products?

A. Earlier management forecasts place this company's 1957 earnings at better than \$3 a share. Higher earnings indicate the board will give consideration to increasing the dividend, new at an annual \$2 rate.

Q. I have not done well with my investment in Fruehauf Trailer. What has happened in its affairs?

A. Last year was far from being a good one for Fruehauf as far as earnings are concerned. The effort of the management is to reduce inventories, and they expect some improvement this year.

The opinion in many Wall Street circles is that there'll be plenty of time to buy when 1958's results become more visible.

FUNDS BUY PLAN

No matter what happens in the stock market, it is apparent that investors in open end investment companies (mutual funds) are continuing to buy more shares in increasing quantities.

Those who buy on a continuing pur-

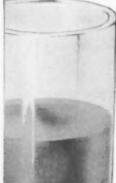
IMPROVED NUTRITION especially for SENIOR CITIZENS...



LIXATONE Geriatric Elixir (Buffington's) is a far-reaching dietary supplement with built-in protein and fat assimilators. It provides therapeutic amounts of essential B-vitamin factors, including vitamin B12 and folic acid. Its lysine content facilitates the assimilation of protein from vegetable sources, and the inclusion of betaine, choline and inositol promotes the metabolism and utilization of fats.

These important features combine to make LIXATONE Geriatric Elixir (Buffington's) a preferred agent when caring for patients of advanced age, where low vitamin diets are so common, and where cereals are so often substituted for animal sources of protein.

LIXATONE Geriatric Elixir (Buffington's) tastes good to discriminating palates of all ages. It is water-miscible, and may be given in fruit juice to ensure adequate vitamin C levels. Adult dose: 2 teaspoonfuls, in water or fruit juice, 3 times daily, either before or during any meal.



LIXATONE

GERIATRIC ELIXIR (BUFFINGTON'S)

Each 30 cc contains: Liver fraction 1, 730 mg.; botoine MCI. 180 mg.; cheline (as tricholine citrate), 180 mg.; insulted, 180 mg.; ilytine monitory, 180 mg.; ilytine monitory, 180 mg.; ilytine monitory, 180 mg.; ribedosvir (ox monophosphos), 18 mg.; ribedosvir doci (in mg.); ribedosvir doci (i

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BUFFINGTON'S, INC. Worcester 8, Mass., U.S.A. chasing basis, either by making regular monthly or quarterly payments, are said to be buyers under an accumulation plan. This number continues to forge ahead, indicating that an increasing number of small investors are setting aside a regular portion of their savings for this purpose.

The National Association of Investment Companies reports that shareholder accounts with its 143 member openend companies and the 24 closed-end companies, totaled 3,364,073 at the close of last year. This compared with 2,774,-692 at the close of 1956.

Accumulation plans in force at the close of 1957 were 639,002 in number, a new high figure, and compared with 464,235 a year earlier. The estimated value of accumulation plans in force on

December 31, 1957 amounted to \$814, 000,000.

Payment of investment income dividends to shareholders of open-end companies during the fourth quarter of 1957 exceeded \$100 million for the first time in any quarter. The exact figure was \$103,294,000.

Distributions to mutual fund share-holders from net realized capital gains amounted to \$154,525,000 during the fourth quarter of 1957 compared with \$185,510,000 for the last quarter of 1956 and \$21,140,000 for the third quarter of 1957. Distributions of realized capital gains are generally made at the close of a company's fiscal year, the Association commented, noting that fiscal year-ends for most of its members occur during the final calendar quarter.



outstanding efficacy in skin disorders

STEROSAN° Hydrocortisone

Cream and Ointment

(chlorquinaldol GEIGY with hydrocortisone)

The case illustrated below typifies the superior response produced by STEROSAN-Hydrocortisone. Combining potent antibacterial-antifungal action with a reliable anti-inflammatory and antipruritic effect, STEROSAN-Hydrocortisone is valuable in a wider range of infective or allergic dermatoses.

A severe infectious eczematoid dermatitis on foot of 15-year-old boy. Patient used STEROSAN-Hydrocortisone preparation 3 times a day for 23 days with a dramatic improvement as shown.*



before treatment



after treatment

*Case report and photographs through the courtesy of N. Orentreich, M.D., New York, N.Y. STEROSAN®-Hydrocortisone (3% chlorquinaldol GEIGY with 1% hydrocortisone) Cream and Ointment. Tubes of 5 Gm. Prescription only.

GEIGY ARDSLEY, NEW YORK

Total net assets of the 167 investment company members of the Association, both open-end and closed-end company members, at the close of 1957 were \$9,924,459,000. This compares with \$10,310,926,000 at the end of 1956 and \$10,280,457,000 at the close of the third quarter of 1957.

Reflecting the general decline last

fall in security price levels, total net assets of the 143 open-end investment company (mutual fund) members of the Association declined to \$8,714,143,000 at the close of the fourth quarter from \$9,000,662,000 at the end of the third quarter and \$9,046,431,000 at year-end 1956, the National Association reported.

WELLINGTON LOOKS AT FUTURE

Wellington Fund, in taking a look at the future, reports that in the past the number of mutual fund shareholder accounts, relative to our population, has doubled every five years since 1940.

"Where will the new shareholders cofe from?", it asks.

It decides that the large majority of "tomorrow's shareholders" of mutual funds will be conservative people, who have in the past had most of their savings in "fixed dollars", represented by savings accounts, savings and loan shares, U.S. Savings Bonds, and life insurance. Most of them are used to

putting money away regularly, which is also possible through monthly accumulation plans, the fastest-growing part of the rapidly growing Fund Industry.

Today there are 106,000,000 owners of life insurance, 52,000,000 with savings in a bank or savings and loan, and 35,000,000 who own U.S. Savings Bonds. From this army of savers will come tomorrow's Mutual Fund investors—looking for a conservative, middle-of-the-road investment program with opportunities for more income and for growth to offset inflation, it concludes.

THE BRUSSELS FAIR

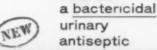
American antibiotics manufacturers plan a major feature at the 1958 Brussels Universal and International Exhibition, which will run from April 17 to October 19, 1958, it was announced recently by Howard S. Cullman, United States Commissioner General.

The exhibit will be housed in the section of the two and a half acre International Science Pavilion devoted to "The Molecule," one of the four subjects around which the scientific displays will be organized. The other three

themes are The Atom, The Living Cell, and The Crystal.

Development of the "molecule" section of the science exhibit for American participators is under the direction of a committee headed by Dr. Henry Eyring, Dean of the Graduate School of the University of Utah. Dr. Max Tishler is consultant for the committee to the antibiotics exhibit and Dr. Randolph T. Major, professor of chemistry at the University of Virginia, is its chief investigator.

NOW



CATHOZOLE°



Antibacterial spectrum: ¹CATHOZOLE¹ is bactericidal and has an exceptionally broad antibacterial spectrum. It is highly effective against the most frequent and even against some of the most stubborn urinary tract infections (E. coli, P. vulgaris, pseudomonas and staphylococcus).

Speed of actions Pain, frequency, burning and irritation usually subside within 24 hours.

Urinary tract concentrations Achieves effective levels, higher than those attained with any other urinary tract antiseptic.

Solubility: Highest solubility and lowest acetylation of any available urinary tract antiseptic. Less hazard of crystalluria.

Tolerance: Oral dosage forms well tolerated. Relatively rare side effects.

Indications: Acute and chronic, uncomplicated and resistant urinary tract infection in young and old. No cross resistance with other urinary tract antiseptics.

Supplied: Tablets ¹CATHOZOLE¹—in bottles of 24 and 100 tablets, each containing 125 mg. ¹Cathomycin¹ Novobiocin las sodium novobiocinl and 375 mg. sulfamethylthiadiazole.

CATHOZOLE is a trademark of Merck & Co., Inc.



DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

T. ROWE PRICE GROWTH STOCK FUND

T. Rowe Price Growth Stock Fund, Inc., primarily a common stock fund, of the no load type, reports that since early in 1955 it has been following an increasingly cautious policy. By the close of the third quarter last year the percentage of the fund's assets held in cash, United States government obligations, other bonds and preferred stocks, was at 23.6%. This compares with 7.5% in such investments in January, 1955 and 23.3% in June, 1957.

"We are convinced that ownership of

well selected growth companies will continue to afford the investor the soundest method of participating in the future growth of economy," Mr. Price says. "When individual stocks, in our considered opinion, represent fair values in relation to their future growth prospects, we will increase holdings in these companies. The percentage of the Fund in common stocks, however, still continues on the conservative side and very close to the 76.4% at the end of September."

FUND REDEMPTIONS NORMAL

Critics of open-end mutual funds over the years have expressed the fear that when a bull market turned into a bear market, holders of fund shares would be the first to liquidate and that their selling would accelerate the decline.

The market turned sharply lower in mid-July. In fact the Dow theorists say the bear market started in 1956. Yet the figures available since then indicate that investors in mutual funds never displayed any signs of panic.

The value of their investments suffered along with virtually all securities, but redemptions appeared to be quite normal in volume and the industry displayed its usual appeal to new investors. "Business Week" surveyed the situation as of late November and while it reported net assets of mutual funds dropped from \$9,800,000,000 in July to \$8,900,000,000 in October, net sales for October were nearly \$3,000,000 above July sales and the highest since January.

The publication pointed out that,

"Surveys undertaken by the open-end trusts show, for example, that in the May to October break of 1946, mutual fund investors purchased \$98.8 million worth of shares, redeemed only \$38.7 million. During the week that followed the start of the Korean War (when the market's industrial average skidded 6.9%), investors purchased \$9 million shares, redeemed \$8.2 million. In the Eisenhower heart attack market (the week ending Sept. 30, 1955), mutual funds racked up sales of \$22.5 million, redeemed only \$10.1 million.

"The same trend has been evident during the present slump. Redemptions, as measured in percentage of sales, have remained at about a normal industry level, 27%, although they did spurt upwards momentarily at the beginning of the market decline in mid-July and during the post-Sputnik days. And new sales easily topped shares turned in for cash; they reached \$357.6 million for the past quarter, close to a postwar high."



They taste delicious...dissolve readily in the mouth

for easier vitamin protection of infants and children . . .

you can now select both formulation and form from the 'Vi-Sol' Family

The 'Vi-Sol' tablets give you a new, appealing dosage form for continuing vitamin protection of children as you "graduate" them from drops.

'Vi-Sol' drops and tablets have delicious fruit-like flavors . . . are easy to give, stable, and hypoallergenic.

Now... when you prescribe Tri-Vi-Sol, Poly-Vi-Sol or Deca-Vi-Sol, be sure to specify form: drops or tablets. Drops available in bottles of 15, 30 and 50 cc.; Tablets, in bottles of 24 and 100.



3 basic vitamins drops • tablets Poly-Vi-Sol*

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Symbol of vitamin protection





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You can select the appropriate instructions for mothers from the Mead Johnson family of printed services.

- . to save time for you
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"Your Baby's Health Record"-

booklet for distribution to mothers. Space provided for physician formula and feeding instructions and vitamin specifications; also formula preparation instructions (both terminal heating and aseptic method). When ordering, specify Dextri-Maltose or Lactum version.

"Formula Products Wall Cards"—
formula prescription blank and preparation instructions and vitamin specifications. Designed to hang in kitchen for
convenient reference by mothers. When
ordering, specify Lactum, Olac, or
Dextri-Maltose. Preparation instructions
cover both terminal heating and aseptic
methods.

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Formula—available for any Mead Johnson product: include preparation specification.

Vitamin—for infants and children, specifying individual 'Vi-Sol' drops or tablets (Tri-Vi-Sol, Poly-Vi-Sol, Deca-Vi-Sol) with area provided for additional physician instructions.

For further information on any of the Mead Johnson printed services, ask your Mead Johnson Representative or write to us, Evansville 21, Indiana.









your selection of formula is easy . . .

classic milk-formula feedings



Lactum'

"instant" powder/liquid

The classic infant formula in ready-prepared form. Made from whole milk and Dextri-Maltose ... based on textbook recommendations. Used successfully in feeding millions of babies.

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Ready-prepared formula with generous protein. Made from nonfat milk, highly refined vegetable oil and Dextri-Maltose. Nutritionally generous for full term infants and prematures.

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Dextri-Maltose

powder

The professional carbohydrate modifier. Manufactured specifically for infant formulas. Meets your highest standards for quality, Three formulations to choose from.

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Sobee"

"Instant" powder/liquid

Hypoallergenic soya formula. Requires only water for preparation of nourishing feedings... no added carbohydrate needed. Light color, pleasant taste.

protein-sensitive infants



Nutramigen

powder

Ready-prepared formula containing protein in hydrolyzed form. Made from casein hydrolysate, refined vegetable oil, arrowroot starch and Dextri-Maltose plus vitamins and minerals.

nonspecific digestive disorders



Probana'

powder

Ready-prepared therapeutic formula. Made from protein milk powder, hydrolyzed casein, banana powder and dextrose. Well tolerated in celiac disorders and chronic diarrheas.

Printed services are available for your convenience, Please see apposite page,



Your selection for each formula feeding need is easy

formula feeding of milk-sensitive infants /







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Sobee Hypoallergenic soya formula

"instant" powder / liquid

you provide a hypoaliergenic formula well tolerated in milk sensitivity.

Eczema, colic and other symptoms of milk allergy are usually relieved promptly. The pleasant bland taste and "milk-like" color are readily accepted. Sobee needs no added carbohydrate—only water—for well tolerated, growth-supporting feedings.

The leaflet "How to Care for Your Allergic Baby" helps mothers follow your instructions on use of Sobee; it also contains suggestions for care of the skin and general care. Ask your Mead Johnson representative or write to us, Evansville 21, Indiana.

The Mead Johnson Formula Products Family







- debilitated
- · elderly
- · diabetics
- · infants, especially prematures
- · those on corticoids
- those who developed moniliasis on previous broad-spectrum therapy
- those on prolonged and/or high antibiotic dosage
- · women-especially if pregnant or diabetic

the best broad-spectrum antibiotic to use is

MYSTECLIN-V

Squibb Tetracycline Phosphate Complex (Sumycln) and Nystatin (Mycostatin)

umycin plus Mycostatin

for practical purposes, Mysteclin-V is sodium-free

for "built-in" safety, Mysteclin-V combines:

- 1 Tetracycline phosphate complex (Sumycin) for superior initial tetracycline blood levels, assuring fast transport of adequate tetracycline to the infection site,
- 2 Mycostatin—the first safe antifungal antibiotic—for its specific antimonilial activity. Mycostatin protects many patients (see above) who are particularly prone to monilial complications when on broad-spectrum therapy.

MYSTECLIN-V PREVENTS MONILIAL OVERGROWTH

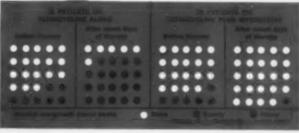
Capsules (250 mg./250,000 u.), bottles of 16 and 100. Half-Strength Capsules (125 mg./125,000 u.), bottles of 6 and 100. Suspension (125 mg./125,000 u.), 2 oz. bottles. Pediatric Drops (100 mg./100,000 u.), 10 cc. dropper bottles.

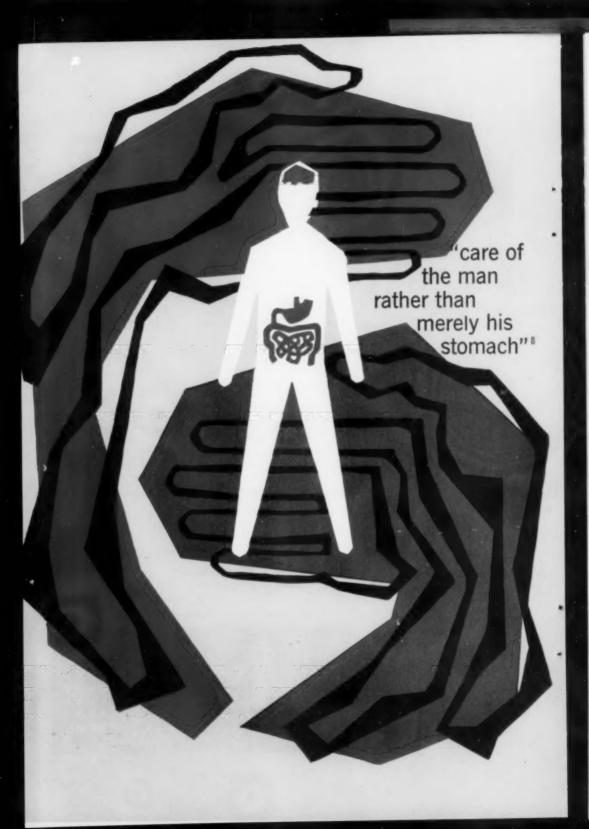
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Squibb Qualitythe Priceless Ingredient

matter in the supplement of and recovered and become transfered







two-level control of gastrointestinal dysfunction

at the central level

The tranquilizer Miltown® reduces anxiety and tension. 1, 3, 6, 7
Unlike the barbiturates, it does not impair mental or
physical efficiency. 5, 7

at the peripheral level

The anticholinergic tridihexethyl iodide reduces hypermotility and hypersecretion.

Unlike the belladonna alkaloids, it rarely produces dry mouth or blurred vision.^{2,4}

indications: peptic ulcer, spastic and irritable colon, esophageal spasm, G. I. symptoms of anxiety states.

each Milpath tablet contains:

dosage: 1 tablet t.i.d. at mealtime and 2 tablets at bedtime.

available: bottles of 50 scored tablets.

references:

Reierences:
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WALLACE LABORATORIES

New Brunswick, N. J.

80 PER CENT IN COMMON STOCKS

A study made by the National Association of Investment Companies about the same time indicates that, come bull markets or bear markets, the funds' preference for various types of securities undergoes little change.

Edward B. Burr, executive director, used the three year period from September 30, 1954 to September 30, 1957, during which period assets of the openend companies that are members of the association increased from \$5,369,700,000 to \$9,000,600,000. Changes in emphasis were relatively minor, he found.

For example, member company holdings of common stocks, by far the largest portfolio component, ranged between a low of 78.8% of total net assets at the end of September, 1954, and a high of 83.2% in June, 1956, Mr. Burr reported, citing a study of industry holdings at the close of each calendar quarter for the past three years. Industry holdings of common stocks in the entire three-year period increased in value from \$4,229,500,000 to \$7,220,400,000.

Total portfolio commitments to preferred stocks at the end of each quarterly period were at a low of 5.2% as of June 30, 1957, and at a high of 7.8% on September 30, 1954, the N.A.I.C. spokesman stated. During the entire period, the open-end investment companies' holdings of preferred stock increased from \$421,500,000 to \$495,000,000.

The percentage of corporate bonds in open-end investment company portfolios was at its low for all quarter-end dates, 5.9%, on June 30, 1956 and at a high of 8.4% on September 30, 1957. Dollar value of bond holdings for the three-year period rose from \$432,800,000 to \$756,100,000.

As of September 30, 1957 the distribution of the assets of the 139 open-end members of the N.A.I.C. was as follows: net cash and equivalent, 5.9%; corporate bonds, 8.4 per cent; preferred stocks, 5.5 per cent; common stocks, 80.2%.

His three-year composite portfolio analysis follows:

THREE-YEAR COMPOSITE PORTFOLIO ANALYSIS OPEN-END INVESTMENT COMPANIES

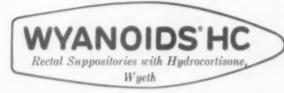
(At third-quarter-ends—Sept. 30, 1954 to Sept. 30, 1957) In Millions of Dollars and Percentage of Total Assets

	SEPT. 30 1954		SEPT. 30 1955		SEPT. 28 1954		SEPT. 30 1957	
	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT
Net Cash &								
Equivalent	\$ 285.9	5.3%	\$ 441.3	6.1%	\$ 504.9	5.9%	\$ 529.1	5.9%
Corporate Bonds	432.8	8.1	458.4	5.3	640.1	7.5	756.1	8.4
Preferred Stocks	421.5	7.8	478.4	6.6	511.7	6.0	495.0	5.5
Common Stocks	4,229.5	78.8	5,879.3	0.18	6,849.3	80.6	7,220.4	80.2
Total Net Assets	\$5,369.7	100.0%	\$7,257.4	100.0%	\$8,506.0	100.0%	\$9,000.6	100.0%

NEW...

for advanced management

of inflammatory
anorectal disorders



hydrocortisone to reduce inflammation and edema... plus the WYANOIDS formula to relieve itching, burning, soreness, pain

Composition: Each suppository contains hydrocortisone (as acetate), 10 mg.; extract belladonna, 0.5% (equiv. total alkaloids, 0.0063%); ephedrine sulfate, 0.1%; zinc oxide, boric acid, bismuth oxyiodide, bismuth subcarbonate, and balsam peru in an oleaginous base.

Supplied: Wyanoids with Hydrocortisone, boxes of 12.

Comprehensive literature available on request

- Acute and chronic nonspecific proctitis
- Radiation proctitis
- Proctitis accompanying ulcerative colitis
- Medication proctitis
- Acute internal hemorrhoids
- Cryptitis
- Postoperative scar tissue with inflammatory reaction
- Internal anal pruritus



Philadelphia 1, Pa.

SO LONG, BOSS

When you go for that winter cruise, say goodbye to the boss and congratulate him on being the big wheel. He'll appreciate your kind sentiments.

He makes more money than you do, but of course he has more taxes too, and if the board fires him there's no grievance committee to plead his case. Under the union contract you get a vacation, but he doesn't.

The American Management Association made a survey recently and came up with the finding that many top executives take no vacation at all, or at best a catch-as-catch-can one.

It said it polled 96 randomly picked executives, and of the total, 42 said they used less than the total amount of vacation time allocated to them, while 6 said they took no vacation at all.

Of the remaining 48 respondents, 4

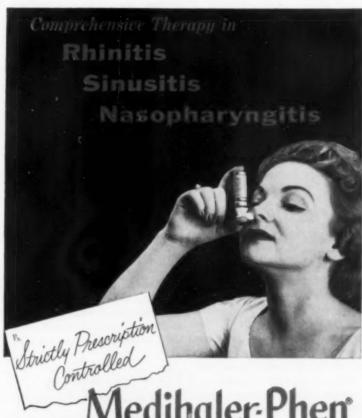
said they took more time than they had coming, 37 said they took the full time allotted and 7 said their vacations were left entirely to their own discretion.

The A.M.A. said while companies complain that their executives don't take as much time off as they should, the companies' own lack of concern may have contributed to the situation.

"Only 8 of the respondents reported that their companies required them to take their full vacations," A.M.A. noted.







Tedihaler Phen

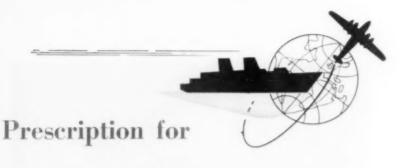
Immediate, effective 4-pronged relief...vasoconstrictive, decongestive, anti-inflammatory, antibacterial. Accurately measured nebular cloud makes droppers and squeeze bottles obsolete.

> Each cc. contains phenylephrine HCl 3.6 mg., phenylpropanolamine HCl 7.0 mg., neomycin sulfate 1.5 mg. (equivalent to 1.0 mg. neomycin base), and hydrocortisone 0.6 mg., suspended in an inert, nontoxic aerosol medium.



MEDIHALER MEANS

automatically measured-dose aerosol medications for closer management supervision over the patient.



TRAVEL

Your Trip Abroad

"How do you go about getting a passport, and how long does it take?" "What's the cost of hiring a car in Europe?" "Can I bring along drugs for the use of my family?"

Inquiries such as these by physicians of our acquaintance prompted this department to gather together some basic travel information. We contacted primary sources—U.S. Government agencies, foreign tourist commissions, air and sea carriers— to assure getting the latest data.

This is the first of a series of articles outlining the basic essentials for those of you interested in overseas travel. Europe will be stressed as it is the most popular goal of ocean-hopping Americans.

Your Passport This is the most important single document that you will carry with you abroad. Take good care of it, for its loss or theft might cause you considerable difficulty.

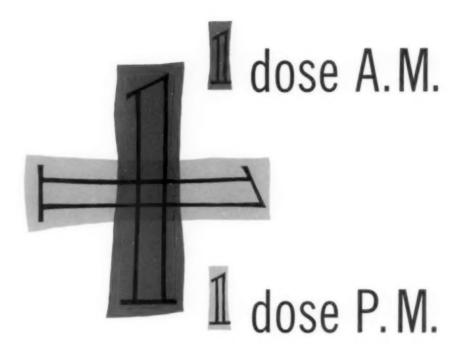
A single passport can be used for

your whole family. You can apply through the clerk of a federal court or a state court authorized to naturalize aliens, or through an agent of the Passport Office. (Addresses of these offices appear at the end of this article.)

You must show proof of American citizenship. If native born, you should present a birth or baptismal certificate; or an affidavit of your birth executed by a parent, close older blood relative, or some individual having personal knowl-

-Continued on 149a

TO OUR READERS: You are avid travelers—as statistics show—taking trips for pleasure and relaxation as well as to attend professional meetings in this country and abroad. In addition, you often prescribe travel for your patients. Thus, the purpose of this department is to give you concise, practical information about one of your strong interests—travel. As a special service, this section will carry each month a calendar of important forthcoming national and international medical meetings.



add up to

Lipo Gantrisin

- · prompt, lasting therapeutic blood levels
- · unsurpassed record of effectiveness and safety
- · new, improved flavor

I dose A.M.



1 dose P.M.

are sufficient to combat most urinary and systemic infections of non-viral—non-rickettsial origin. Faster and more prolonged blood levels, plus a new and improved vanillamint flavor, make Lipo Gantrisin the ideal pediatric form of Gantrisin. Follow this regimen and note the quick response.

Supplied in bottles of 4 and 16 oz.

Dosage: Teaspoonfuls every 12 hours

Adults . . . 4 or 5

Children . . 20 lbs-1 40 lbs-11/4

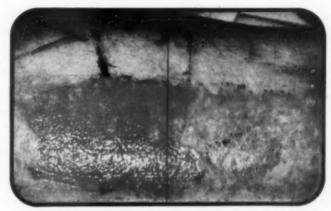
80 lbs -3

(No alkalis or fluids need be given.)

Lipo Gantrisin

Roche Laboratories · Division of Hoffmann-La Roche Inc · Nutley 10 · N. J.

Lipo Gantrisin® Acetyl-brand of acetyl sulfisoxazole in a homogenized mixture Roche-Reg. U.S. Pat. 0ff.



Skin graft donor site after 2 weeks' treatment with ... petrolatum gauze-still FURACIN gauzelargely granulation tissue | completely epithelialized

OBJECTIVE EVIDENCE OF SUPERIOR WOUND HEALING

was obtained in a quantitative study of 50 donor sites, each dressed half with FURACIN gauze, half with petrolatum gauze. Use of antibacterial FURACIN Soluble Dressing. with its water-soluble base, resulted in more rapid and complete epithelialization. No tissue maceration occurred in Furacin-treated areas. There was no sensitization.

Jeffords, J. V., and Hagerty, R. F.: Ann. Surg. 145:169, 1957

FURACIN 6. . . brand of nitrofurazone

the broad-range bactericide that is gentle to tissues

spread Furacin Soluble Dressing: Furacin 0.2% in watersoluble ointment-like base of polyethylene glycols.

sprinkle Furacin Soluble Powder: Furacin 0.2% in powder base of water-soluble polyethylene glycols. Shaker-top vial.

spray Furacin Solution: Furacin 0.2% in liquid vehicle of polyethylene glycols 65%, wetting agent 0.3% and water.



EATON LABORATORIES, NORWICH, N.Y.

Nitrofurans-a NEW class of autimicrobialsneither antibiotics nor sulfonamides

now 2

palatable

and effective

antidiarrheals

containing

Carob powder buffers intestinal contents and adsorbs irritant secretions, bacteria, and toxins. Its marked demulcent properties check hyperperistalsis, permitting fluid absorption and rapidly producing formed stools. Carob powder tends to prevent dehydration and loss of electrolytes and the patient can usually be maintained on adequate nutritious diets during treatment.

The high soluble carbohydrate content (mainly fructose) of carob powder provides valuable nutritional support and tends to counteract diarrhea-induced acidosis.

CAROB POWDER

for
 prompt
symptomatic
control



PITMAN-MOORE COMPANY

DIVISION OF ALLIED LABORATORIES, INC. INDIANAPOLIS 6, INDIANA

Carob powder with streptomycin /neomycin

INTROMYCIN™

Carob Powder . . . for prompt relief of diarrhea symptoms

Neomycin/Streptomycin...for the prevention and treatment of bacterial infections

your patients recover more rapidly with intromycin

because

- formed stools are produced 5 times faster¹
- · water loss is better controlled
- electrolytes are replenished
- bacterial pathogens are inhibited

Abella, P.U.: J. Pediat, 41:82, 1952.

Available in 75 Gram (21/2 oz.) bottles.

Have

you taken

the

INTROMYCIN

taste

test?



Carob powder without antibiotics

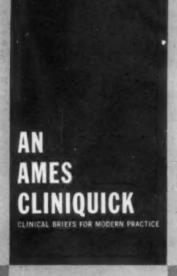
AROBON'

Arobon alone controls most nonspecific, uncomplicated diarrheas by physiologic means—without the use of sedatives or narcotics. In infectious diarrheas, it controls the distressing symptoms when used in conjunction with appropriate antibiotic or chemotherapeutic treatment.

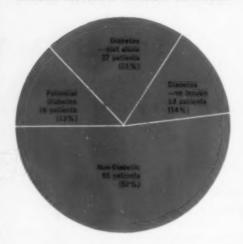
Originally introduced as an outstanding antidiarrheal for infants and children, Arobon has proved remarkably efficacious in the treatment of diarrheas of all age groups.

Distributed by Pitman-Moore Company under the trade name AROBON through rights acquired from the trademark owner, the Nestlé Company, Inc.

Available in 5 oz. bottles.



DIABETES FOLLOWING TRANSIENT GLYCOSURIA*



should a non-diabetic, transient glycosuria ever be considered unimportant?

Never. A patient showing even a mild transient glycosuria should be observed for years as a diabetic suspect.*

Ultimate diagnosis on 126 patients with a previous transient mild glycosuria. Twenty diabetics were discovered 5-10 years after a recorded glycosuria—10 diabetics after more than 10 years.*

^oMurphy, R.: Connecticut M. J. 21:306, 1957.

COLOR CALIBRATED CLINITEST Reagent Tablets

the STANDARDIZED urine-sugar test for reliable quantitative estimations

- · full color calibration, clear-cut color changes
- · established "plus" system covers entire critical range
- standard blue-to-orange spectrum long familiar to diabetics
- · unvarying, laboratory-controlled color scale



AMES COMPANY, INC • ELKHART, INDIANA
Ames Company of Canada, Ltd., Toronto

Recommended for golfers with insomnia: this course in Lapland, above the Arctic Circle. The summer midnight sun makes it possible to shoot a round any time of night. Photo was taken about midnight, according to the Swedish National Travel Office.



Swedish National Travel Office

edge of the date and place of your birth.

A naturalized citizen should present his naturalization certificate. Or if you have an old passport, it will serve as evidence of citizenship.

Photographs Two duplicate photographs are required. They must have been taken within six months of date of application, and must be full-faced, on unglazed paper and not over 3 by 3 inches nor less than $2\frac{1}{2}$ by $2\frac{1}{2}$ inches in size. One of the photos must be signed by the applicant.

In its literature, the Passport Office states that a group photo is preferred for a family and suggests that there is no objection to pictures "which depict the applicant as a relaxed, smiling person." (It would appear all those old jokes about passport photos have had an effect.)

Witness Someone who has known

you for at least two years must appear with you when you make your application. He must fill in and sign an affidavit on the form. An old passport bearing a signed photo may be used in lieu of a witness.

Fees The legal fee for a passport is \$9 plus \$1 for executing it. State courts, however, may charge \$2 for executing the application. Processing usually takes from a week to ten days.

A passport is valid for two years from the date of issue and may be renewed for an additional two-year period. Renewal fee is \$5.

Visas—permits to enter foreign countries—are of no concern if you confine your travels to western Europe as these countries do not require them for tourists on temporary visits. However, if your travel goals lie in some other part of the world, chances are you will need visas. It's important that you get them

before leaving here so that you don't run the risk of being denied entry. The Passport Office issues a circular, "Fees Charged by Foreign Countries for the Visa of American Passports," which will give you necessary details in addition to fees.

Vaccination and Inoculation

Generally speaking, smallpox vaccination is the only required immunization involved in travel between here and Europe. According to law, before you can reenter the United States you must present proof of a successful vaccination within the past three years or proof that you are immune through a previous attack.

The same requirement holds for entry into France, Switzerland, Holland, Spain and Italy. Britain has no requirement.

The best thing to do is to take care of this before leaving the U. S. You and your family should also get shots for typhoid, paratyphoid and tetanus, as is recommended for travel abroad by the U. S. Public Health Service.

You may want to take with you drugs and antibiotics for personal use. If so, European countries will allow a "reasonable" amount to protect the health of you and your family.

Customs Though Customs regulations won't be of direct concern to you until the end of your trip, it's wise to have them clearly in mind before you leave. If you have been abroad a full 12 days, you are permitted to bring home \$500 worth of merchandise duty-free. This applies to your wife and children as well. So, if you have two children and travel as a family, you would have a total exemption of \$2000.

One member of the family can declare for the group. This must be done in writing. You can expedite things by making a list of the articles acquired abroad and keeping sales slips and purchase orders. Remember to include all articles which you mailed home during the trip.

For Customs purposes the value of an article is based on fair market price. If you don't have the sales slip, don't make a wild guess—try to remember as accurately as possible what you paid. Customs officers know their business, which means they know a lot about the costs of merchandise.

-Continued on page 152a

NEW AIR RATES

Effective April 1 there will be a new class of service—to be called economy or third class—and a new schedule of rates for air travel between America and Europe. The new structure will mean both lower and higher prices for travelers.

Rates for the three present classes will be increased. For example: One-way deluxe first class rates from New York to London will increase from \$450 to \$485; first class from \$400 to \$435, and tourist from \$290 to \$315.

The charge for a New York-London economy fare will be \$252, a saving of \$38 over the present tourist fare. The new class will mean more austere travel, with seats closer together and no hot meals or cocktails. The menu will consist of sandwiches and tea, coffee or milk.

next time, try...

PARACORT* PREDNISONE

PARKE-DAVIS

or

PARACORTOL PREDNISOLONE

PARKE-DAVIS

THREE TO FIVE TIMES THE ACTIVITY OF CORTISONE OR HYDROCORTISONE

supplied: 5-mg, and 2.5-mg, scored tablets; bottles of 30 and 100



PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

-

....

If you have a taste for rare liquors and cigars you should keep these limitations in mind: each resident—and this includes children—is allowed one gallon of liquor and 100 cigars. This, it would seem, is a fairly generous allowance as far as the average traveler is concerned.

Time Saver To save time getting through Customs you should pack all your purchases in the same piece of luggage. It's a bother for both you and the officer if you have to dig through bag after bag looking for that German hunting knife or that pretty piece of pottery your wife picked up in Brittany.

A word of caution: if you take with you overseas an article of foreign manufacture—a watch, camera, or binoculars, for example—it is wise to register it before leaving this country. This can

be done at any customshouse and will save you the trouble of proving you didn't buy it abroad.

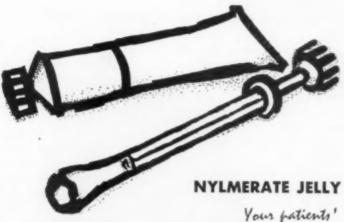
There are restrictions against bringing into the U. S. certain plants and meats, and there are strict regulations governing the importation of pets such as monkeys and parrots. Before you collect any of the above, better check with the Public Health Service or the Department of Agriculture.

Clearing Customs should be no problem. With your cooperation the officer will see to it that you get through quickly.

For further information about passports contact a travel agent, the offices of any of the major ship and air lines, or write to a Passport Office located at one of these addresses:

-Confinued on 154s





Vaginal discharges* are problems of control and elimination with effective medication . . . in the shortest possible time! More and more physicians solve these problems by relying on . . . prescribing . . . Nylmerate, the proven therapy.

AS A CONCOMITANT MEASURE

AND IN PROPHYLAXIS



* Nylmerate (brand of phenylmercuric acetate) is effective as a trichamonicide, manificide and bactericide.

HOLLAND-RANTOS COMPANY



United States Post Office and Court House Building, Boston 9, Mass.

United States Court House, Chicago 4, Ill.

International Trade Mart, New Orleans 12, La.

Rockefeller Center, 630 Fifth Avenue, New York 20, N. Y.

126 Federal Office Building, San Francisco 2, Calif.

500 South Figueroa Street, Los Angeles 17, Calif.

Passport Office of the Department of State, 1717 H Street, N.W., Washington 25, D. C.

(EDITOR'S NOTE: The second article in this series will appear next month.)

Europe: 1958

ore Americans than ever before-an estimated 700,000 - will visit Europe this year, according to Pan American World Airways and other reliable sources.

Many travelers will be drawn there by two of the biggest tourist events since World War II-the centenary celebration of the establishment of the Roman Catholic Shrine at Lourdes. France, and the World's Fair at Brussels, Belgium, which opens April 17.

-Continued on 156s

save yourself "mile-a-day"



REFINED (TO ENSURE QUALITY) BENZALKONIUM CHLORIDE

CHLORIDE

Extra steps and waste motion can be curtailed when you keep a bottle of Zephiran tincture at hand in the various treatment areas of your office. Zephiran can play many parts in the daily routine: use it as a pre-injection swab; to paint the operative site before

minor surgery; in the treatment of dermatologic conditions; in fungous infections: for cleansing and flushing in the débridement of wounds; as a routine disinfectant-in fact, there are 175 uses for economical Zephiran.

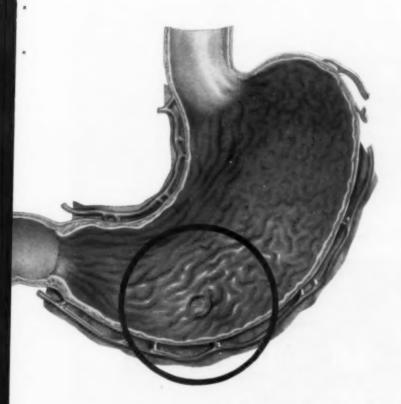
Supplied: Tincture 1:1000 tinted, tincture 1:1000 stainless, and aqueous solution 1:1000 in 8 oz. and 1 gal. bottles. Concentrate (12.8% buffered aqueous solution) in oz. and 1 gal, bottles.

| inthrop LABORATORIES NEW YORK 18, N. Y.

in the peptic-ulcer regimen

ACID NEUTRALIZATION

is fundamental



"In all essential respects subsequent investigations have corroborated the original concept of Sippy [acid neutralization]."1

Cecil, R.L., and Loeb, R.F.: A Textbook of Medicine. W.B. Saunders Co., Philadelphia, 1955, 9th ed., p. 870.

FUNDAMENTAL THERAPY IN PEPTIC ULCER



AMPHOJEL® double gel for diphasic

Aluminum Hydroxide Gel, Wyeth

for diphasic action



Pan American World Airways

Gate tower leads to bridge across Neckar River at Heidelberg, famous German University city.

Another favorable factor is the reasonably stable political situation. (In 1957 travel was hampered by the Suez crisis.)

In '58 there will be plenty of gasoline for motorists and more hotel space in major cities. Prices are expected to be slightly higher than last year.

The bright prospects for European travel this year are reflected in these capsule reports from some of the main tourist centers:

Frankfurt Germany — one of the few European countries that suffered from no gas or heat problems last year —this year has a long list of colorful musical events and festivals ready for spring and summer travelers.

At Koblenz a stage has been built

-Continued on 158a





Natabec Kapseals VITAMIN-MINERAL COMBINATION

Just one NATABEC Kapseal a day provides vitamin-mineral supplementation for the gravida and for the nursing mother. Prescribed by the physician as a supplement to good table fare, NATABEC helps to promote better present and future health for the mother and for her child.

dosage: As a supplement during pregnancy and throughout lactation, one or more Kapseals daily. Available in bottles of 100 and 1,000.

PARKE, DAVIS & COMPANY
Detroit 32, Michigan

she needs support, too during pregnancy and throughout lactation right out on the Rhine River for the production of operettas. At Bayreuth the famous Wagner Festival runs from July 23 to August 25; from June through August Munich will celebrate its 800th birthday with art exhibitions, trade shows, parades, balls and the opening of the Cuvillie Theatre.

Lisbon This city will have 653 more rooms for tourists this year—nearly all of them first class. More tours and more English-speaking drivers for sight-seeing trips are also promised. Lisbon's bullfight season starts on Easter Sunday. Here the bull is not killed; he is fought from horseback with spectacular displays of horsemanship.

Barcelona The Costa Brava, just north of here, is Spain's Riviera: first class hotels and warm weather through March and April. Fishing villages, private sandy inlets, feasts of sea food make it one of Spain's biggest "draws." In town there's a new hotel, the Manila, with a top floor restaurant and grill overlooking the Gothic Quarter with its medieval and Roman architecture.

London The Festival of Wales, running from May through October, will be Britain's top event. It will feature everything from sports spectacles to traditional Welsh songfests. The British Isles expect a million and a half visitors in 1958, some 300,000 more than last year. Both in London and the provinces there are more accommodations to handle them.

Paris Your dollars will go further in France this year, with the devaluated

franc pegged at 420 instead of 350—plus the fact that most stores catering to Americans will give a 15 per cent discount on U.S. dollars or traveler's cheques. The discount is part of a government scheme to curb the "black money market."

The hotel situation is better, too. Scores of small hotels—taking advantage of a 20 billion franc fund established by the state for hotel modernization—have equipped themselves with more bathrooms, up-to-date plumbing, elevators and even bedside lights.

Dublin The sixth annual An Tostal, Ireland's springtime festival, is expected to get the tourist season off to an auspicious start. Running from May 11 through 26, the An Tostal will feature drama; sports events including horse racing, Gaelic football, golf tournaments; a variety of cultural presentations.

Rome Travelers stay longer in Italy than in any other European country, a proof of its charm. This year Rome expects thousands more religious visitors than usual—people who will come down from Lourdes. And when they get here they will find two new air-conditioned hotels: the 270-room Metropole, near the main railway station and airlines terminal, and the Caesar Augustus, on the Via Flaminia, whose 110 rooms are topped by a roof-garden swimming pool.

Special events run through the year, from the Milan International Trade Fair in April, the Easter celebrations at St. Peter's in Rome, to the Venice Film Festival in September.

-Continued on 160a

COMPREHENSIVE CONTROL OF CONSTIPATION

PROVIDES SOFT STOOLS GENTLY STIMULATED TO EVACUATION

DOXINATE" with DANTHRON (Doxan)

the original dioctyl sodium sulfosuccinate
fecal softener combined with danthron, the nonirritating, non-habit forming laxative —

Comprehensive control of constipation with Doxan . . .

- ★ prevents fecal dehydration and gently stimulates the lower colon in functional constipation
- synergistically provides, with a subclinical dosage, peristaltic action on a soft, "normal" intestinal content rather than on the hardened mass typical of constipation
- ★ results in soft stools gently stimulated to evacuation . . . and restores normal bowel habits

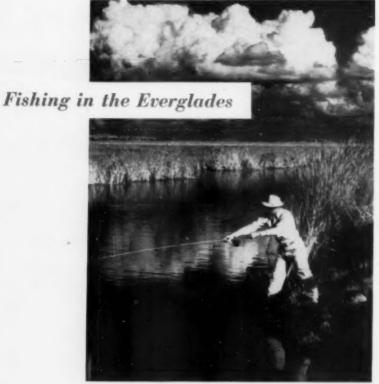
Dexinete with Denthron (Dexen) is supplied as brown, capsule-shaped tablets containing 60 mg. dioctyl sodium sulfosuccinate and 50 mg. 1,8-dihydroxyanthraquinone.

Usual adult dose: One or two capsule tablets at bedtime, Bottles of 30 and 100,

When fecal softening alone is indicated—
Dexinate 240 mg.—provides optimal oncea-day dosage for maintenance therapy.

Doxinate is a registered trademark of Lloyd Brothers, Inc.

LLOYD BROTHERS, INC.



Florida State News Bureau

FLORIDA POSTSCRIPT: With the end of Florida's winter season at hand, tourist interests are looking forward to the spring influx of visitors, at the same time trying to forget the chilling weather the year began with . . . Miami hotels encourage family trade by making many special facilities available. They provide baby-sitters for the very young vacationers and entertainment for the teenagers. Parents can follow their own interests while sons and daughters attend supervised dances in jukebox rooms, go to special movies or take part in chaperoned wienie roasts on

the beach. . . . It is said some of the best fishing in the state is to be found in the Everglades, where the angler can try for more than 50 species of fish. He can try his luck from piers and causeways or charter a boat at rates ranging from \$40 to \$60 per day . . . Of interest to physician-vacationers is Florida's new J. Hillis Miller Health Center in Gainesville. The Medical Sciences Building was completed and dedicated in October, 1956. Future plans call for more facilities, so that the center can also train pharmacists, scientists, dentists, rehabilitation workers. -Continued on 164a

For better
tetracycline absorption,
higher serum levels
and more certain
control of infection...

Bristol

Tetrex

In view of its higher blood levels... "it appears that tetracycline phosphate complex would be more effective [than tetracycline HCI] in treating infections due to susceptible organisms.

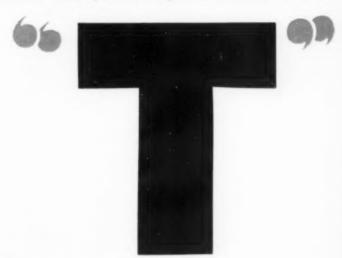
For better tetracycline absorption, higher serum levels and more certain control of infection...

Tetrex

In view of its higher blood levels ..." that tetracycline phosphate complex more effective [than tetracycline HC ing infections due to susceptible org



Suits every tetracycline need to a



Typical comments from clinical investigators

"The advantages of higher blood and tissue levels of tetracycline in combating infections with susceptible bacteria are significant." 1

"All patients with infections caused by tetracycline-sensitive organisms responded satisfactorily to tetracycline phosphate complex therapy." 5

"The increased serum levels obtained with it [tetracycline phosphate complex] may be considered a 'safety factor'."

"It effectively controlled the pyogenic component . . ."9

"Side effects were infrequent and mild . . .""

Tetrex

THE ORIGINAL TETRACYCLINE PHOSPHATE COMPLEX



THE ORIGINAL TETRACYCLINE PHOSPHATE C

F

9 e

d

d

Faster, higher tetracycline serum levels for more certain control of infection. 1,4,5,7,10,11

Significant serum levels for 24 hours on a single dose of Tetrex Intramuscular (250 mg.)^{2,3}

A single, pure antibiotic (not a mixture.)

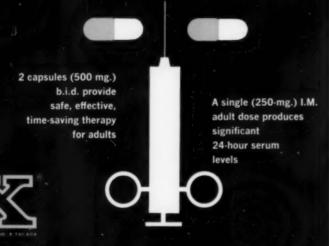
B.i.d. or q.i.d. dosage equally effective orally. 1.6.8,11

Clinically "sodium-free." 1.4

A dosage form for every tetracycline need.

References: 1, Cronk, G. A., Naumann, D. E., and Casson, K.: Fifth Annual Symposium on Antibiotics, Washington, D. C., Oct. 2-4, 1957.
2, Dube, A. H.: Ibid. 3, Portney, B., Draper, T., and Wehrle, P. F.: Ibid. 4, Shidlovsky, B. A., Prigor, A., Maynard, A. de L., Felix, A. J., and Hjelt-Harvey, I.: Ibid. 5, Cronk, G. A., and Naumann, D. E.: Ant. Med. & Clin. Ther. 4:166, 1957. 6, Prigot, A., Shidlovsky, B. A., and Felix, A. J.: Ibid. 4:487, 1957. p. Pulsski, E. J., and Isokane, R. K.: Ibid. 4:408, 1957. 8, Putnam, L. E.: Ibid. 4:470, 1957. 9, Pein, C. R., and Fleischmajer, R.: Ibid. 4:422, 1957. 10, Welch, H., Lewis, C. N., Staffa, A. W., and Wright, W. W.: Ibid. 4:215, 1957. 11, Pulaski, E. J.: Practitioner 179:465, 1957.

"...an improvement and ultimate replacement for the older tetracycline hydrochloride."



Five groups of investigators who administered TETREX to 996 patients with a wide variety of infections reported excellent therapeutic results, with a remarkably low incidence of side effects. As one group reported: "All patients infected with tetracycline-sensitive organisms responded satisfactorily to therapy." In only 8 patients (0.8%) of the 996 were side effects such as to require discontinuance of therapy.

COMPLEX

As the need arises — a suitable dosage form: Tetrex Capsules (250 mg.), Tetrex Pediatric Capsules (100 mg.), Tetrex Intramuscular (250 mg.) with Xylocaine*, Tetrex Intramuscular (100 mg.) with Xylocaine*, Tetrex-APC with Bristamin.

Also Available: Tetrex Syrup and Tetrex Pediatric Drops (tetracycline syrup, phosphate buffered.)

*® of Astro Phorm. Prod. Inc. for lidecoine.

Bristol LABORATORIES INC., Syracuse, N. Y.

EFFECTIVE

in a wide
variety of
eommon
INFECTIONS
including:

Respiratory tract Infections:

pneumonia, acute bronchitis, pharyngitis, sinusitis, septic sore throat, whooping cough.

Urinary tract

pyelonephritis, pyelitis, cystitis, prostatitis, urethritis.

Gastrointestinal

bacillary and amebic dysentery, bacterial diarrhes, gastroenteritis.

Dermatologia intections:

cellulitis, furunculosis, pustular dermatoses, acne.

Rickettsial and viral infections:

typhus fever, Rocky Mountain spotted fever, trachoma, lymphogranuloma venereum, psittacosis.

Prophylaxis in aurgery and obstetrics:

preoperative preparation of gastrointestinal tract; deliveries in unsterile fields. Suits every tetracycline need to a



Typical comments from clinical investigators

"The advantages of higher blood and tissue levels of tetracycline in combating infections with susceptible bacteria are significant." 1

"All patients with infections caused by tetracycline-sensitive organisms responded satisfactorily to tetracycline phosphate complex therapy." 5

"The increased serum levels obtained with it [tetracycline phosphate complex] may be considered a 'safety factor'."

"It effectively controlled the pyogenic component . . ."9

"Side effects were infrequent and mild . . ."8

Tetrex

THE ORIGINAL TETRACYCLINE PHOSPHATE COMPLEX

WHEN ABORTION THREATENS...

CLINICALLY EFFECTIVE THERAPY BY MOUTH



NORLUTIA (norethindrone, Parke-Davia)

oral progestogen with unexcelled potency and unsurpassed efficacy

In obstetric complications amenable to progestational therapy, the clinical effects of injected progesterone can now be produced by small oral doses of NORLUTIN. For example, one investigator reports that 20 of 21 patients treated for threatened abortion appeared to benefit from administration of NORLUTIN.*

case summary* A 39-year-old married woman with a history of slight dysmenorrhea and staining intermittently superimposed on a regular 28-day cycle was placed on a regimen of stilbestrol. Staining recurred in spite of increasing dosage. Nearly two months after institution of this therapy a pregnancy of 16-weeks duration was discovered. Spotting continued during the following two weeks. Stilbestrol was then discontinued and treatment with NORLUTIN begun. Staining ceased 3 days after beginning treatment with NORLUTIN. The pregnancy continued uneventfully to full term when she gave birth to a healthy male infant weighing 6 pounds, 5 ounces.

INDICATIONS FOR NORLUTIN: Conditions involving deficiency of progestogen such as primary and secondary amenorrhea, menstrual irregularity, functional uterine bleeding, endocrine infertility, habitual abortion, threatened abortion, premenstrual tension, and dysmenorrhea.

PACKAGING: 5 mg. scored tablets (C. T. No. 882), bottles of 30.
*Abramson, D.: Personal communication.



PARKE, DAVIS & COMPANY - DETROIT 32, MICHIGAN

MARSILID

(iproniazid)

the new psychic energizer

"a major breakthrough . . . in mental disease"*

Q. What is Marsilid?

A. Marsilid ROCHE (iproniazid) is a psychic energizer – the very opposite of a tranquilizer – of unparalleled value in mild and severe depression. Marsilid is an amine-oxidase inhibitor which affects the metabolism of serotonin, epinephrine, norepinephrine and other amines.

Q. How does Marsilid act?

A. Marsilid restores a feeling of well-being and promotes an increase in appetite, weight and vitality. It restores depleted nervous energy and stimulates appetite and weight gain in chronic debilitating disorders.

Marsilid, in effect, has a protective or sparing action on serotonin and norepinephrine in the brain. When subjects treated with Marsilid take reserpine, the effect of Marsilid is potentiated by reserpine – the opposite of the usual tranquilizing results of reserpine therapy. This is due to the fact that reserpine releases serotonin and norepinephrine from their bound forms in the

^{*}T. R. Robie, paper read at First Marsilid Symposium, New York City, November 29, 1957

brain; normally these substances are rapidly destroyed by amine oxidase.

Q. How soon is the effect of Marsilid apparent?

A. Marsilid is a relatively slow-acting drug; even in mild depression results may not be evident for a week or two. In chronically depressed or regressed psychotics, results may be apparent only after a month or more.

Q. How does Marsilid compare with shock treatment?

A. Marsilid usually obviates the need for shock treatment. The drug has repeatedly been effective in patients who had not responded to shock therapy (both insulin and electroshock).

Q. What is the dosage of Marsilid?

A. Like all potent drugs, Marsilid requires individual dosage adjustment for best results. It is therefore important to follow the dosage directions carefully.

Q. What precautions should be taken with Marsilid?

A. Like cortisone, digitalis and other potent drugs, Marsilid should be used with care and the precautions listed in the literature should be observed.

Q. What is the clinical background for Marsilid?

A. The therapeutic usefulness of Marsilid has been described in over 50 recent publications. For reprints and information on the clinical use of Marsilid, write to Professional Service Department, Roche Laboratories, Nutley 10, New Jersey.

Marsilid® Phosphate — brand of iproniazid phosphate (1-isonicotinyl-2-isopropylhydrazine phosphate)
Roche — Reg. U. S. Pat. Off.

ROCHE LABORATORIES . Division of Hoffmann-La Roche Inc . Nutley, New Jersey

Calendar of Meetings

April

Athens, Greece: International Congress of Medicine, April 4-12. Contact: Prof. P. Delore, 13 Rue Jarente, Lyon, France.

Belfast, Northern Ireland: Association of Surgeons of Great Britain & Ireland, April 10-12. Contact: Joint Secretariat, 45, Lincoln's Inn Fields, London, W.C. 2, England.

Rome, Italy: Congress of the International Association of Applied Psychology, April 9-14. Contact: Dr. C. B. Frisby, 14, Welbeck St., London W. 1, England.

Madrid, Spain: International Congress of Legal and Social Medicine, April 16-19. Contact: Prof. B. Piga, Dept. of Legal Medicine, Madrid University, Madrid, Spain.

Athens and the Island of Cos, Greece: International Congress of Neo-Hippocratic Medicine, April 4-12. Contact: Prof. Pavlakio, International Congress of Neo-Hippocratic Medicine, Faculty of Medicine, Athens, Greece.

Rio de Janeiro, Brazil: Pan American Congress of the History of Medicine, April 12-20. Contact: Dr. Ordival Carriano Gomes, Rua Mexico, 163-2 Andar, Rio de Janeiro, Brazil.

May

Paris, France: Congress of French Society of Ophthalmology, May 11-15. Contact: Dr. Guy Offret, 16, Rue de Logelbach, Paris, France.

Brussels, Belgium: Conference of International Union for Health Education of the Public, May 3-4. Contact: Mr. M. Lucien Viborel, Secretary-General, 92, Rue St. Denis, Paris, France.

Munich, Germany: Congress of the International Association for the Study of the Bronchi, May 16-17. Contact: Dr. J. M. Lemoine 189, Boulevard St. Germain, Paris 7e, France.

June

San Francisco, Calif.: American Medical Association Annual Meeting, June 23-27. *Contact:* Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Ill.

Halifax, N. S., Canada: Canadian Medical Association, June 15-19. Contact: Dr. A. D. Kelly, 150 St. George St., Toronto 5, Ontario.

Montreal, Canada: Congress of International Federation of Gynecology and Obstetrics, June 22-28. Contact: Prof. L. Gerin-Lajoie, 1414 Rue Drummond, Suite 313, Montreal, Canada,

Lisbon, Portugal: International Association for Child Psychiatry, June 15-20. Contact: Mrs. Irvine, Secretary-General, Tavistock Clinic 2, Beaumont St., London, W. 1, England.

Stockholm, Sweden: International Congress of Urology, June 25-July 1.

-Continued on 166a

MEDICAL TIMES

MY DAD - HE HURT HIS BACK REAL BAD

"It happened at work while he was putting oil in something"



"He told Mom his shoulder felt like it was on fire"





"He couldn't swing a bat without

hurting"



"Dad said we'd play ball again tomorrow when he comes home"

> AND THE PAIN WENT AWAY FAST

Percodan[®]

and Homatropine, plus APC)

TABLETS

usually within 5-15 minutes

LASTS LONGER usually for 6 hours or more

MORE THOROUGH RELIEF permits uninterrupted sleep through the night

RARELY CONSTIPATES.
excellent for chronic or bedridden patients

Percodan-Demi

VERSATILE

New "demi" strength permits desage flexibility to meet each patient's specific needs. PERCODAN-DEMI provides the PERCODAN formula with one-half the amount of salts of dihydrohydroxycodeinone and homatropine.

AVERAGE ABULT BOSE: 1 tablet every 6 hours. May be habit-forming. Available through all pharmacies.

Each Pencoent Tablet contains 4.50 mg. dihydrohydroxycodeinone hydrochloride, 0.38 mg. dihydrohydroxycodeinone terephthalate, 0.38 mg. hometropine terephthalate, 224 mg. acetytaslicytic acid, 100 mg. phenoetin, and 32 mg. caffeina.

Literature? White

Endo

ENDO LABORATORIES Richmond Hill 18, New York

FU.E. Per. 2-828-185

Contact: Dr. G. Giertz, Karolinska Sjukhuset, Stockholm 60, Sweden.

July

Stockholm, Sweden: American College of Surgeons, Regional Meeting, July 2-7. Contact: Dr. Michael L. Mason, 40 E. Erie St., Chicago, Ill.

London, England: International Cancer Congress, July 6-12. Contact: Secretary-General, 7th International Cancer Congress, 45, Lincoln's Inn Fields, London, W. C. 2, England.

Birmingham, England: British Medical Association, July 10-18. Contact: The Secretary, British Medical Association, Tavistock Square, London, W. C. 1, England.

London, England: British Tuberculosis Association, July 1-4. Contact: Secretary-General, National Association for the Prevention of Tuberculosis,

London, England: Congress of Medical Women's International Association, July 15-21. Contact: Dr. Janet Aitken, 330a Acacia Rd., London, N. W. 8, England.

London, England: International Union of Biological Sciences, July 16-23. Contact: Chairman, Division of Biology and Agriculture, National Research Council, 2101 Constitution Ave., N. W., Washington 25, D. C.

August

Montreal, Canada: International Congress of Genetics, August 20-27. Contact: Mr. J. W. Boyes, Chairman, De-

partment of Genetics, McGill University, Montreal 2, Quebec, Canada.

Stockholm, Sweden: International Congress of Microbiology, August 4-9. Contact: Dr. C. G. Heden, Bakteriologiska Institutionen, Karolinska Institutet, Stockholm, Sweden.

Copenhagen, Denmark: World Federation of Occupational Therapists, August 11-16. Contact: Annemarie Gjetting, Upsalagade 7,5.S., Copenhagen, Denmark.

Copenhagen, Denmark: World Medical Association, August 15-20. Contact: Dr. Louis H. Bauer, 10 Columbus Circle, New York 19, N. Y.

September

Brussels, Belgium: International Association for the Prevention of Blindness, September 8-15. Contact: Dr. J. P. Mailliart, 47 Rue de Bellechasse, Paris 7e, France.

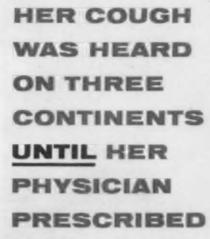
Venice, Italy: International Congress of Angiology and Histopathology, September 25. Contact: Dr. L. Gerson, 4 Rue Pasquier, Paris 8e, France.

Vienna, Austria: International Congress of Biochemistry, September 1-6. Contact: Dr. O. Hoffmann-Ostenhof, Währingerstrasse, 42, Vienna IX, Austria.

Tokyo, Japan: International Congress on Diseases of the Chest, September 7-11. Contact: Prof. Andrew L. Banyai, Council on International Affairs,

—Concluded on 1680

MEDICAL TIMES



BENYLIN EXPECTORANT

BENYLIN EXPECTORANT contains in each fluidounce:

Benadryl® hydrochloride

(dipl	hen	hydr	ami	ne h	ydn	ehl	oride	, Po	rke-	Dav	ris)	80 mg.
Ammoniu	ım	chl	orio	le								12 gr.
Sodium c	itr	ate			0		0	0	0	0	9	5 gr.
Chlorofor												
Menthol												
Alcohol												

rupplied: BENYLIN EXPECTORANT is available in 16-ounce and 1-gallon bottles.



PARKE, DAVIS & COMPANY DETROIT 32, MICHIGAN American College of Chest Physicians, 112 E. Chestnut St., Chicago, Ill., U. S. A.

Montpellier, France: International Congress on the History of Medicine, September 28-Oct. 2. Contact: Dr. F. A. Sondervorst, 124 Avenue des Allies, Louvain, Belgium.

Beirut, Lebanon: International Congress of Hydatid Diseases, September 12-15. Contact: Dr. Elias Sader, Rue Ibrahim Ahdab, Beirut, Lebanon.

Brussels, Belgium: International Congress of Ophthalmology, Brussels, Belgium, September 8-12. Contact: Prof. Jules Francois, 15 Place de Smet de Naever, Ghent, Belgium.

Barcelona, Spain: International Congress of Psychotherapy, September 28-Oct. 2. Contact: Dr. Mariano de la Cruz, Clinica Psiquiatrica Universitaria, Faculty of Medicine, Barcelona, Spain.

Lisbon, Portugal: International Congress of Tropical Medicine and Malaria, September 5-13. *Contact:* Prof. Manuel R. Pinto, Instituto de Medicina Tropical, Lisbon, Portugal.

Brussels, Belgium: International Society of Cardiology, September 14-21.

Contact: Dr. F. van Dooren, 80 Rue Mercelis, Brussels, Belgium.

Rome, Italy: International Society of Hematology, September 7:13. Contact: Dr. Sol Haberman, 3500 Gaston Ave., Dallas, Tex., U. S. A.

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MEDICAL TIMES



FOR PAIN RELIEF

PYRIDIUM°

Brand of phenylazo-diamino-pyridine HCI)

fills the gap between complaint and correction of urinary tract disorders

Pyridium (the urinary tract anesthetic) relieves discomfort and painful symptoms even before the effects of specific therapy can begin. In 20-25 minutes, Pyridium alleviates pain, urgency, frequency and burning.

When there is no infection, Pyridium eases the discomfort of chronic, non-specific urinary tract disorders, gives prompt in-the-office relief. It affords a fast-working analgesic for instrumentation, or may be used to keep patients comfortable until surgery.

When infection is present, use Pyridium as always with any treatment you choose, or to supplement combination therapy whenever additional analgesia is required. While waiting for diagnostic test results or for fever to come down, you can provide fast relief from pain and discomfort with Pyridium.

Diagnosis or treatment may take time—but pain relief can be immediate. Use Pyridium for *every* case with urinary tract pain, for relief in minutes.

WARNER-CHILCOTT





Medical Book News

Edited by Robert W. Hillman, M.D.

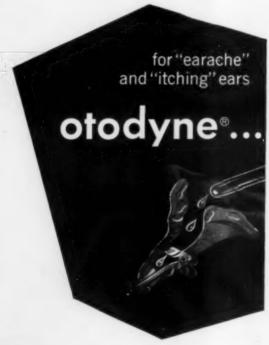
Clinical Fluoroscopy

Fundamentals of Clinical Fluoroscopy.

With Essentials of Roentgen Interpretation. By Charles B. Storch, M.D. 2nd Revised Edition. New York, Grune & Stratton, [c. 1957]. 4 quarto. 305 pages, illustrated. Cloth, \$8.75.

Written by an experienced teacher, this volume is an admirable contribution to a subject which has been largely taught by "apprenticeship." From its excellent illustrations to its concise language, it is a valuable guide and aid to the physician who has had no formal instruction in radiology and yet is interested enough to do his own fluoroscopy and radiology.

Despite its relatively small size, this



Otodyne brings gratifying symptomatic relief in simple "earache" and in pruritic conditions of the external ear canal.

Quick-acting Zolamine (1%) and long-acting Eucupin® (0.1%) are combined in a polyethylene base which does not obscure anatomic landmarks.

in 15 cc. dropper bottles.

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volume is very complete. A subject like fluoroscopy of the small bowel, frequently completely neglected in the larger texts, is well covered. There are innumerable helpful clinical suggestions. This book is recommended for all physicians since x-ray diagnosis is such an important adjunct to practice.

MORRIS ZUCKERBROD

Psychiatry

Transvestism . . . Men in Female Dress.
Edited by David O. Cauldwell, M.D.
New York, Sexology Corporation,
[c. 1956]. 8vo. 128 pages, illustrated.
Cloth, \$3.00.

This particular type of sexual deviation, its nature, origin, treatment, and prevention is lucidly presented by a number of distinguished authorities. Herein one finds answers to such questions as, "Why do some men have an uncontrollable urge to wear women's clothing?" "Why do these men associate sexual satisfaction with their dressing in female attire?" "Why do some men want to change their sex?" The answers to these baffling questions, which have been asked throughout recorded history, are sought in the light of the latest research and theories of human sexual behavior.

The publishers are congratulated upon bringing to the front this major book wholly devoted to this deviation. It should go far in bringing out a scientific attitude and clarification of this

-Continued on following page

in otitis externa and chronic otitis media

antibacterial-antifungal ear drops

otobiotic®

Proved effective against the bacteria and fungi found in infections of the external ear canal.

- · nonirritating, essentially nonsensitizing
- . tends to reduce congestion and maceration
- does not distort otologic landmarks
- · with physiologic pH for the ear

Each cc. contains: Neomycin (as suifate)....3.5 mg,
Sodium propionate......50 mg.
—in an autogenously sterile, hydroalcoholic-glycerin

In 15 cc. dropper bottles.

vehicle.

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MEDICAL BOOK NEWS

-Continued from preceding page

thorny problem, not only to the transvestite, but also to his family, and the community as well.

FREDERICK L. PATRY

Lymphatic System

Lymphatics, Lymph and Lymphoid Tissues. By Joseph Mendel Yoffey, M.D. & Frederick Colin Courtice, D.Sc. Cambridge, Massachusetts, Harvard University Press, [c. The Authors, 1956]. 8vo. 510 pages, illustrated. Cloth, \$10.00.

There has long been a need for a book on the lymphatic system. This one really is an excellent job. Its main thesis is to study the role of the proteins in maintaining the volume of the circulating plasma and the function of the lymphatic vessels in returning extra-vascular protein to the blood stream. All the recent advances in the knowledge of the lymphoid system have been included in this study.

One of the most important chapters is the one in which the author discusses the biologic significance of lymphoid tissue. The effect of various agents such as toxic compounds, ionizing radium, hemorrhage, etc., are considered. For the research worker in medicine and its allied fields, this excellent monograph is a valuable aid. The bibliography is precise and extensive.

ALAN A. KANE

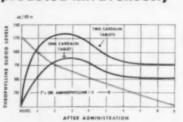
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Orally...higher and more sustained aminophylline blood levels than those produced intravenously

Cardalin utilizes two synergistic protective factors to permit administration of high oral doses of aminophylline without the usual side effects of nausea, gastric irritation and vomiting.

CARDALIN

... proven effective clinically whenever high blood concentrations of aminophylline are desired ... as in congestive heart failure, cardiac edema, paroxysmal dypsnea, angina pectoris, myocardial infarction, heart block and bronchial asthma.



(Adapted from Bicherman, H. A., et al.: Ann. Allergy 11:301, 1953, and Truitt, E. B., Jr., et al.: J. Pharmacol. & Exper. Therap. 100:309, 1950.)

Each Cardalin tablet supplies: Aminophylline, 5.0 gr.; Aluminum hydroxide, 2.5 gr.; Ethyl aminobenzoate, 0.5 gr.

Also available, Cardalin-Phen.



Irwin, Neisler & Co.

Decatur, Illinois

when rapid relief of allergic symptoms is needed

(diphenhydramine hydrochloride, Parke-Davis)

AMPOULES



Parenteral BENADRYL in the new, higher strength ampoule is especially well suited for prompt control of acute allergic reactions occurring as results of blood transfusions or administration of serums or drugs. Added to infusion fluid or blood prior to administration, BENADRYL affords excellent protection against allergic reactions.

BENADRYL solution may be administered intravenously or intramuscularly, although the intravenous route is preferable.

> NEW BENADRYL Hydrochloride Ampoules, now available in a 1-cc. ampoule, 50 mg. per cc., in boxes of 10.

BENADRYL Hydrochloride Steri-Vials available in 10 and 30 cc. vials, 10 mg. per cc.

PARKE, DAVIS & COMPANY

DETROIT 32, MICHIGAN

24392

MEDICAL BOOK NEWS

-Concluded from page 172a

Functional Osteology

Ciba Foundation Symposium on Bone Structure and Metabolism. Editors for the Ciba Foundation, G.E.W. Wolstenholme, M. B. & Cecilia M. O'Connor, B.Sc. Boston, Little, Brown & Co., [1956]. 8vo. 299 pages, 121 illustrations. Cloth, \$8.00.

This book represents the thoughts of anatomists, chemists, physiologists, pathologists and medical men. The papers cover the fundamental approach to the anatomy and structure of bone, its physiology and relation to clinical medicine.

An interesting observation is made by W. R. Harris and A. W. Ham in their discussion on the mechanism of nutri-

tion of bone. "Many accounts of fracture healing state that an early and important step in the process is the invasion of the blood clot by granulation tissue. We have recently studied the fate of the blood clot in experimental fractures and have found that so far as the formation of the external callus is concerned, it appears to be of no importance. It is not invaded by granulation tissue in the early stages of healing and it appears to be more of an obstacle than anything else to the growth and fusion of the collars of osteogenic tissue that bring about union."

Throughout the various essays similar provocative statements are made. For anyone interested in the physiology of bone this symposium will offer some stimulating hours.

ALAN A. KANE



MODERN THERAPEUTICS

The Use of Pitocin in Late Abortion and Immature Delivery

The authors, H. E. Atherton and his co-workers, Obstetrics and Gynecology [10:576(1957)], report their experience with the use of Pitocin at the John Gaston Hospital of Memphis, Tennessee. When early inevitable or incomplete abortion must be dealt with, the uterus can be easily and successfully emptied by dilatation and curettage if the period of gestation is under 16 weeks. However, with a longer gestation period, the size of the uterine cavity is out of proportion to the size of the cervix, and the product of conception is more fully developed and of a consistency that does not permit of removal by dilatation and curettage. Neither does the desultory uterine action accomplish spontaneous delivery or enough dilation and effacement of the cervix for operative evacuation; an attempt of such procedure frequently leads to undue trauma with possible hemorrhage and infection. Thirtythree patients in the abortion and immature delivery group were given Pitocin intravenously in one of the antecubital veins at approximately 15 to 30 drops per minute. The drug was diluted



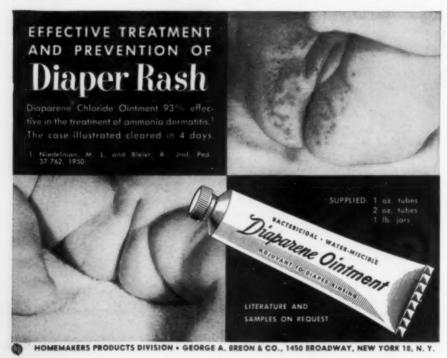
MODERN THERAPEUTICS-

in 1,000 cc. of 5 per cent glucose in distilled water, and the concentrations varied from 0.5 to 2 cc. of Pitocin per 1,000 cc. of glucose solution. The Pitocin drip was administered for no more than four hours out of 24 to prevent exhaustion of the patient. The average time Pitocin was used was six and onehalf hours if there was no dilatation and effacement of the cervix, otherwise the time averaged two and one-quarter hours. No complications were encountered. All patients aborted spontaneously, and the only operative interference required was sponge stick removal of the placenta or placental fragments in nine instances, and artificial rupture

of the membranes in four. From the results in our series, the authors conclude that utilization of this method is indicated prior to resorting to an operative procedure.

Treatment for Seborrhea of the Scalp

Out of 300 cases of seborrhea, 231 obtained complete clearance of excess oil and scaling, 59 patients showed improvement, and 10 were not benefited following the repeated application of a cream shampoo. According to Schmitt in Clin. Med. [4:445(1957)], the shampoo (Fostex) contained sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate, sodium dioctyl sulfosuccinate, micro-pulverized sulfur, solicylic acid,



176a

PMB-200

"Premarin" with Meprobamate

Each tablet contains 0.4 mg. "Premarin," 200 mg. meprobamate.



AVERST LABORATORIES . NEW YORK 16, N. Y. . MONTREAL, CANADA

"Premarin" conjugated estrogens (equine)

Meprobamate, licensed under U.S. Pat. No. 2,724,720

meprobamate 400 mg.), bottles of 60 and 500.

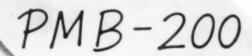
The NEW potency of "Premarin" with Meprobamate physicians requested

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The new potency, PMB-200, enables you to attune therapy to the needs of your patients in the menopause who require extra relief from anxiety and tension, in addition to estrogen therapy. PMB-400 (0.4 mg. "Premarin" and 400 mg. meprobamate) continues to be available.

When emotional lability has been stabilized, and stress symptoms controlled, therapy may be continued with "Premarin" alone.

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and hexachlorophene. The shampoo was employed every 3 or 4 days at first and then the intervals between applications were increased. Minor side effects such as irritation, increased scaliness and dryness of the scalp was noted in 9 patients.

The author concluded that the shampoo had shown a marked efficacy in the control of seborrhea capitis and that patient acceptance was good.

Obesity Treated with Chlorpromazine

In his treatment of the subject of obesity, the author, Charles Ressler of New York, New York State Journal of Medicine [57:1607(1957)], mentions the seriousness of the problem; the need for careful case histories and examinations: the personality factors involved, and the importance of a good doctorpatient relationship. The latter is particularly difficult in a busy office or clinic, and a means of aiding the achievement of that rapport is worth consideration. It was believed that chlorpromazine (Thorazine) might aid the patients in whom emotional involvements were a factor in obesity. Twelve excessively obese clinic patients who showed evidence of personality disorders were selected for observation of the effects of the drug. Each patient was instructed to take a 10-mg, tablet before each meal and at bedtime. The patients remained on the regimen for three months, and were examined regularly for possible untoward reactions. As a result of therapy, half of the patients showed good or fair losses of weight, and only one individual continued to gain weight. The only side effect was drowsiness. This study was not made for the purpose of suggesting the use of chlorpromazine as routine therapy in obesity. It should be used only when health requires reduction which is otherwise inhibited by psychologic reasons. Further studies utilizing wider dosage ranges of chlorpromazine, the author believes, are definitely indicated. The encouraging results of this limited study indicate that the drug, even in small doses, can be very useful in treating severe obesity.

Reserpine Given to Chronic Alcoholics

After reports had appeared in the literature regarding the calming effects of reserpine (Serpasil) on the emotions, the author, R. E. Wells of Boston [Journal of the American Medical Association, 163: 426 (1957] conducted a study of the drug's effects at the Peter Bent Brigham Hospital alcoholic clinic. Reserpine and a placebo were used in the investigation; neither patient nor physician knew the order of administration. The average dosage was 0.25 or 0.5 mg, twice daily. Results of therapy were divided into four groups:—(1) Well—designated those patients who

Diagnosis, Please

(from page 29a)

EMPHYSEMATOUS BLEBS

Note numerous thinwalled, irregularly-shaped blebs relatively free of lung structure, amongst which are compressed the comparatively uninvolved regions.

MODERN THERAPEUTICS -

had not taken alcohol for at least nine month, and in general were rehabilitated. (2) Moderately improved-patients who had no more than three drinking episodes in a six-month period, and had returned to employment and family. (3) Slightly improved-patients were drinking less frequently, and still desired to stop drinking. (4) Condition unchanged. Of the 145 patients in the group, 112 received reserpine and the remainder, a placebo. Of the group taking reserpine, twenty-eight patients, 16 of whom had been drinking heavily for more than 15 years, were considered well. Twenty-five were moderately improved, and twenty-seven were slightly improved. This type of study has two

major limitations. The group under observation was selected, which meant that only patients were included in whom some hope of rehabilitation was apparent. The number of new drugs being constantly placed on the market tends to make the physician suspicious of their merits. At present, Dr. Wells believes, the practitioner is inclined to judge them swiftly, discredit their possibilities after a very short trial, and turn to the next drug.

The Use of Isopropamide Iodide in Gastrointestinal Diseases

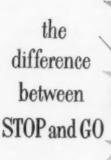
Among other investigators desirous of obtaining more effective anticholinergic agents, C. R. Hoffman of Cincinnati [American Journal of Gastroenterology, 28: 446 (1957)] made a study of

TAKE A LOOK AT NEW DIMETANE THE UNEXCELLED ANTIHISTAMINE

the effects of isopropamide iodide (Darbid). Tests had shown that the antisecretory and antispasmodic effects of Darbid lasted for approximately 12 hours after oral administration. Seventy-four patients were in the group studied, whose symptoms had failed to respond to routine treating measures. Their disorders were duodenal and gastric ulcers. gastroduodenitis, gastritis, chronic pancreatitis, and esophageal histus hernia. Several dose regimens were used to observe the reactions of the patients to isopropamide iodide. The majority of patients took the drug every 12 hours in a dosage of 5.0 or 10 mg. Because of the severity of the disease in some instances, the appropriate dosage proved to be a difficult decision. However, while rapid relief was important, 10 mg.

of the drug was effective; when symptoms were less severe, half of that amount gave satisfactory response. In some instances, the duration of therapy was nine months; the average period was five months. Results of therapy were good in 84 per cent of the patients treated: fair in 14 per cent, and poor in two per cent. The clinical results obtained in the evaluation demonstrated the efficacy of the long-acting quaternary amine, isopropamide iodide. According to Dr. Hoffman, its effectiveness in completely relieving symptoms within 24 to 48 hours after the first dose was outstanding. Apparently a single dose reduces gastric secretion and controls hypermotility for approximately twelve hours. Side-effects were minimal. Recourse to surgery was not required.

TABLETS (4MG.), ELIXIR (2 MG. PER 5 CC.) AND EXTENTABS® (12 MG.) UNEXCELLED POTENCY, UNSURPASSED THERAPEUTIC INDEX AND RELATIVE SAFETY MINIMUM DROWSINESS AND OTHER SIDE EFFECTS. A. H. ROBINS CO., INC., RICHMOND, VIRGINIA. ETHICAL PHARMACEUTICALS OF MERIT SINCE 1878





in cases of

- . INTESTINAL CRAMPS
- DYSMENORRHEA
- SMOOTH MUSCLE SPASM
- . HEAT CRAMPS

HVC HAYDEÑ'S VIBURNUM COMPOUND

Contains viburnum opulus, dioscorea, prickly ash berries, arematics and sufficient alcohol to release the resins in the crude drugs.

Patients who have been stopped by smooth muscle spasm are soon on the go again with HVC, prescribed by physicians for over ninety years as a consistently reliable sedative and smooth muscle relaxant. Symptomatic relief is both prompt and prolonged, and HVC is free from narcotics or hypnotics.

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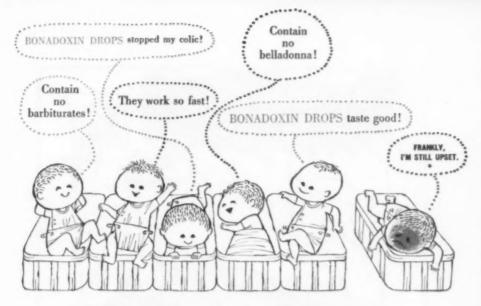
MODERN THERAPEUTICS

Prednisone Used in Congestive Heart Failure

The authors, L. B. Gutner and his associates at the New York University-Bellevue Medical Center [American Journal of the Medical Sciences, 234: 281 (1957)] instituted a study of the action of prednisone on sodium, potassium, and water excretion in patients with congestive heart failure. Of the eleven patients studied, eight were maintained in compensation by a daily dose of a digitalis product; three, in addition, required periodic parenteral mercurial diuretics. After a period of observation and tests, each patient was given 5 mg. of prednisone orally four times a day for one week. The tests were repeated, and the dose of prednisone was increased to 10 mg. four times daily. Results showed that prednisone produced a decrease in the 17-ketosteroid excretion in eight individuals with either variable or no effect in three. There was an increase in the 24-hour urinary excretion of sodium in seven patients, a decrease in two, and a variable response in two. The effect on the 24-hour urinary excretion of potassium was essentially similar. Blood pressure readings were unaffected in seven instances, decreased in two, and variable in one. The authors are of the opinion that prednisone can be utilized without hesitation for any desired therapeutic end in patients who present a syndrome of diminished myocardial efficiency. It may be employed to alleviate massive cardiac edema, especially when the response to mercurial and other diuretics has been lost. While the mechanism of the beneficial action of prednisone in

-Continued on page 185a

MEDICAL TIMES



word gets around fast among the colic set:

NEW

BONADOXIN° DROPS

STOP COLIC...WITHOUT NARCOTICS

When you prescribe BONADOXIN DROPS you make everybody happy:

- baby gets peaceful sleep, freed of cramps and colic (*BONADOXIN DROPS stop infant colic in 84%1-3)
- Mom and Dad get a vacation from frayed nerves (BONADOXIN DROPS are "effective almost immediately"4)
- you avoid the risk of belladonna and barbituratea (BONADOXIN DROPS are well-tolerated¹⁻⁴)

Next time you get the "colic call," try BONADOXIN DROPS Each cc. contains: meclizine dihydrochloride...8.33 mg, pyridoxine hydrochloride...16.67 mg.

under 6 months	0.5 cc.	2 or 3 times
6 months to 2 years	1.5 to 2 cc.	daily, on the
2 to 6 years	3 cc.	atongue, in
adults and children over 6 years	1 teaspoon (5 cc.)	fruit juice or water

supplied: Fruit-flavored, clear green syrup in 30 cc. dropper bottles.

references: 1. Dougan, N. T.: Personal communication. 2. Leonard, C. L.: Personal communication. 3. Steinberg, C. L.: Personal communication. 4. Litchfield, N. R.: Arch. Pediat. 73:229 (July) 1956.



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(Vol. 86, No. 3) March 1958



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Vitamin C 75 mg.	Calcium 50 mg.
Vitamin E 2 Int. Units	Boron 0.1 mg.
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Vitamin B ₃ 2.5 mg.	Fluorine 0.1 mg.
Vitamin B _a 1 mg.	lodine 0.2 mg.
Vitamin B ₁₂ Activity 3 mcg.	Magnesium 3.0 mg.
Panthenol 5 mg.	Manganese 1.0 mg.
Nicotinamide 20 mg.	Molybdenum 1.0 mg.
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appreciate the Novahistine LP effect

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in a few minutes



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this relief continues



for as long as 12



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after a single dose of 2



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Each tablet contains:

Phenylephrine hydrochloride.....20 mg.

Chlorprophenpyridamine maleate 4 mg.

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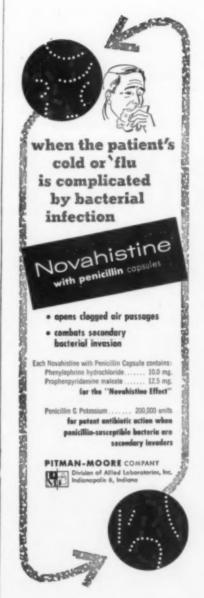
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-Continued from page 180a

congestive heart failure is speculative, it seems apparent to the authors that it may be utilized with safety.

Psoriasis, a Metabolic Lipid Disturbance

In Central Europe in World War I, the author points out, edible fats and oils were very scarce, and it was noted. also, that psoriasis was practically nonexistent. While opinions had been completely at variance as to the pathogenesis of psoriasis, the results of the low-fat diet seemed to point to metabolism as an influencing factor. Further study appeared to indicate a qualitative disturbance in lipid metabolism. While no evidence points to the dependence of psoriasis on disturbed glucose metabolism, the dermatosis is approximately ten times more frequent in diabetics. From his personal observations, the author, Frank C. Combes of New York City [New York State Journal of Medicine, 54:1945 (1954)] became convinced that care of the patient with psoriasis should include the following measures; (1) removal of recognizable foci of infection, (2) a low-fat, highprotein diet, (3) abstinence from alcohol, (4) administration of lipotropic substances, and (5) facilitation of fat digestion. In order to accomplish the last two requisites, large quantities of defatted hog pancreas were prescribed. This is available in powder form as Lipan. To each gram of Lipan is added 1.000 international units each of vitamin B, and vitamin D. Patients were given 180 0.5-Gm. capsules; two to be taken with each meal (six capsules



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Novahistine-DH*

(fortified Novahistine with dihydrocodeinone)

When "head colds" become "chest colds" Novahistine-DH promptly controls coughs and keeps air passages of both head and chest clear of obstruction.

Each teaspoonful (5 cc.) of grape-flavored Novahistine-DH contains:

Phenylephrine hydrochloride	10	mg.
Prophenpyridamine maleate	12.5	mg.
Dihydrocodeinone bitartrate	1.66	mg.
Chloroform (approx.)	13.5	mg.
I-Menthol	1.0	mg.

Supplied in pint and gallon bottles.

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MODERN THERAPEUTICS

daily). If improvement was not evident after six or eight weeks, the dose was increased to three capsules after each meal. In a group of 57 persons observed for periods of three months to two years, the patients improved and those experiencing remission of lesions totaled 66.7 per cent. This figure appears to indicate the efficacy of a planned diet plus Lipan for the treatment of psoriasis.

New Treatment for Hydrocephalus

A University of Florida medical school professor has discovered that a drug now being used in the treatment of glaucoma is also highly effective in cases of hydrocephalus.

Dr. Thomas H. Maren, professor of pharmacology, has reported to the American Society for Pharmocology and Experimental Therapeutics that the drug, acetazolamide, has lowered pressure on the brain to normal levels in all 20 patients treated.

Dr. Maren's findings also revealed that the pressure stays down as long as the drug is given, now in the sixth month.

In children with hydrocephalus, all brain processes are crushed so that within a short time the children are confined to cribs, unable to move.

"Successful use of the drug here indicates that there may be hope in salvaging the very early cases of hydrocephalus by treating babies before the pressure has built up," Dr. Maren said. This might mean keeping such patients on the drug for the rest of their lives. In experiments on laboratory animals, a surprising feature of such a powerful

-Continued on page 188a

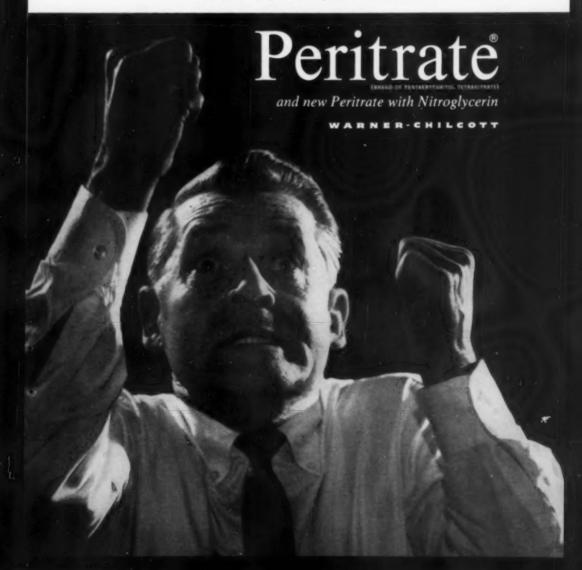
anginaphobia: must anger cause angina?

Fear of anginal attack may cause a patient to simmer in repressed hostility --potentially as harmful as blowing off steam.

Remove the fear factor by lowering the anginal attack rate. Peritrate, a long-acting coronary vasodilator, reduces the frequency and severity of attacks, lessens nitroglycerin dependence, increases exercise tolerance.

For the unduly apprehensive patient (especially early in treatment), Peritrate with Phenobarbital relieves tension without daytime drowsiness.

Usual dosage: 20 mg. of Peritrate before meals and at bedtime.



MODERN THERAPEUTICS -

-Continued from page 186a

drug was its safety, permitting long term, high dosage treatment without ill effects or retarding growth.

Colonic Disorders Treated with Corticotropin-Zinc Hydroxide

The author, Jacob A. Riese of West New York, New Jersey [American Journal of Gastroenterology, 28: 452 (1957)], makes mention of the number of disorders with a characteristic type of diffuse ulcerative inflammation of the colon which cannot be ascribed to known etiologic factors, and are known as ulcerative colitis. Whether the disease is increasing in prevalence or whether the seeming increase is the result of improved diagnostic procedures

may not be readily determined. With the availability of corticotropin, many reports have confirmed its efficacy in treating ulcerative colitis, and advances in its therapeutic form which was originally time-consuming and costly have greatly facilitated its use. A newer combination of ACTH and zinc hydroxide (Cortrophin-Zinc) provides long action and ease of administration. Twentynine patients with ulcerative colitis, mucous colitis, regional enteritis, and spastic colon were given daily intramuscular injections of 40 to 80 U.S.P. units of Cortrophin-Zinc for three days. Dosage was then decreased to 40 units every other day for three injections, and was continued if response had not occurred. If response had been satisfactory, the dose was lowered to 40 units

-Continued on page 190a

IN GASTRIC DISTRESS

new, original preparations

for

prompt relief sustained effect

for ulcer-related pain

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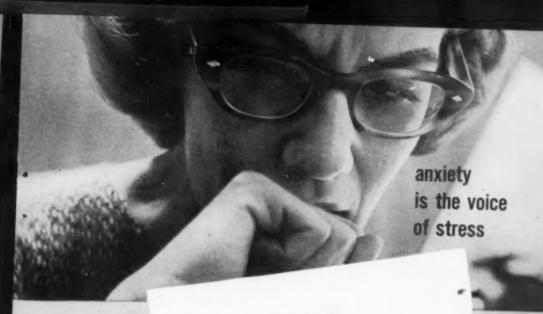
The original Tropesil antacid formulation plus the potent cholinolytic, pipenzolate methylbromide, normalizes gastric secretion, reduces g.i. spasm and neutralizes excess acidity. In the presence of ulcerrelated pain, 1 tablet q.i.d.

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Two unique antacid elements provide prompt, sustained effectiveness. The new milk protein derivative, aluminum proteinate, is combined with the swift acid-neutralizing power of new aluminum magnesium hydroxycarbonate complex. In convenient, mildly flavored swallowable tablets, 1 or 2 t.i.d.

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Representative Case Report:

Secretary, married, nulliparous

premenstrual tension is a state of stress Recurrent premenstrual tension, marked by nervousness, irritability, fatigue, headache, muscular aches, and cramps. Daily meprobamate therapy was begun in the succeeding menstrual period at the onset of symptoms, and was continued until the third day. The medication is now taken regularly on this schedule, and the patient reports marked relief, both somatic and psychic.



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SPARINE® HCI Promazine HCI

A Wyeth narmatropic drug for nearly every patient under stress



Meprobamate

Relieves tension-mental and muscular

MODERN THERAPEUTICS -

-Continued from page 188a

twice weekly. Eight of the 13 patients with ulcerative colitis were completely controlled with Cortrophin-Zinc. The remainder of the 29 cases treated were primarily problems of severe diarrhea and were well-controlled. One patient with a 40-year history of severe diarrhea had normal bowel movements within two weeks.

According to Dr. Riese, the longaction, convenience of administration, and increased effectiveness make corticotropin-zinc hydroxide a valuable therapeutic agent for colonic disorders. As employed by the author, no side-effects were noted.

The Use of Chlorpromazine During Labor

The authors were of the opinion that the characteristic effects of chlorpromazine, i.e., sedative, tranquilizing, and antiemetic, would be desirable for the patient in labor, and would, at the same time, allow a reduction in dosage or possibly the elimination of the more depressant type of medication such as barbiturates and narcotics. John E. Lindley and his associates, of Houston, Texas, Obstetrics and Gynecology [10:582 (1957)], studied the effects of chlorpromazine in 1881 clinic and 212 private pregnant patients. Chlorpromazine was used alone or combined with meperidine or scopolamine in order to determine the optimal regimen for the maximum

-Continued on page 192a

In a recent study (1) coitus was made possible in 85% of 67 cases of impotency with the use of 1 cc. of GLUKOR intramuscularly twice weekly, and maintained once weekly or as little as once monthly.



Each cc contains:—200 I.U. chorionic gonadotropin (human), 25 mg. thiamine HCL, \$2.5 ppm. L (+) glumatic acid. 0.5% chlorobutonal and 1% proceine HCL. Available in 18 & 25 cc multiple dose vials. Reg. U. S. Pat. Off., Pat. Pend.

GLUKOR was effective in 88.5% of patients (2) with impotence, male climacteric, senility, depression, angina and coronary.

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 Personal Communications from 110 Physicians.

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Also - for the female - GLUTEST . . . effective in refractory cases where other therapy fails.

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Improved Formula — vitamin C increased from 150 to 250 mg.

"BEMINAL" Forte with Vitamin C
when high potency B and C levels are needed

Each capsule contains: thiamine mononitrate (B_1) 25 mg., riboflavin (B_2) 12.5 mg., nicotinamide 50 mg., pyridoxine HCl (B_3) 3 mg., calc. pantothenate 10 mg., vitamin C (ascorbic acid) 250 mg., vitamin B_{12} with intrinsic factor concentrate 1/9 U.S.P. unit. Supplied: No. 817 — Bottles of 100 and 1,000 capsules.

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MODERN THERAPEUTICS -

-Continued from page 190a

potentiating effect of chlorpromazine: five different therapeutic programs were used. It appeared that the most consistently effective dosage schedule was an initial dose of 25 mg, of chlorpromazine, 50 mg. of meperidine, and 0.4 mg. of scopolamine, repeating the dosage of chlorpromazine and meperidine every two to three hours as needed for pain. On this regimen, the relief of pain and sedation was 89 per cent of the clinic patients. Of the 1887 infants delivered, 84 per cent were in good condition, 12 per cent in fair condition. slightly over two per cent in poor condition, and 1.6 per cent were stillborn. The percentage of side effects was low. There was secondary uterine inertia in 16 instances, profound sedation beyond a desirable degree in nine patients, and hyperactive behavior in 19 instances. Of the group of private patients, all received a significant degree of relief, and in nearly all instances the relief from pain and discomfort was complete. Primigravidas in early labor or patients admitted for induction of labor received 50 mg. of chlorpromazine orally, followed by 25 to 50 mg, of meperidine and 0.3 mg. of scopolamine: the latter drugs were repeated once or twice if necessary. Patients in active labor were given 50 mg. of meperidine, 25 mg. of chlorpromazine, and 0.3 mg. of scopolamine, all in one syringe; this was repeated once if needed. This regimen produced approximately a 50 per cent reduction in the total dosage of meperidine. The authors conclude that the excellent results obtained from the use of chlorpromazine would appear to obviate the need of barbiturates for the patient in labor.

Effect of Perphenazine on the Basic Consciousness

Realizing the need for careful evaluation of the more potent so-called "tranquilizing" drugs, the authors, N. L. Mason-Browne and J. W. Borthwick, Diseases of the Nervous System [18:300] (1957)], have submitted a preliminary report on one of the newer agents for which a high potency is claimed. Perphenazine (Trilafon) is an amino-derivative of chlorphenothiazine and is assumed to act principally upon the mesendiencephalic alerting system and associated areas that have a profound influence on the level of basic consciousness. For the study, 75 chronic patients who had exhibited resistance to therapy were chosen, and divided into three groups. Group A received a 16-mg. placebo tablet three times a day: Group B, a 16-mg, perphenazine tablet in the same dosage; and Group C received a 25-mg. tablet of another agent. For one week prior to the start of the trial, for 30 days during the trial, and for one week following the trial period, no other medication was used. Nurses in charge of the wards kept daily records, and all patients were rated by the senior author at the start and completion of the trial. Assessment of results by the nursing staff, occupational therapy department, and the psychiatrist were substantially the same. The number of patients improved by perphenazine was more than three times greater than the number of patients improved by the other agent. The number of patients unimproved was listed as six by the nurses and as seven by the psychiatrist. Further deteriora-



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MODERN THERAPEUTICS -

-Continued from page 192a

tion was believed to be seven by the nursing staff, and five by the psychiatrist. Side effects in five patients having taken the perphenazine appeared between the seventh and eighteenth days of medication, and consisted of dizziness, nausea, tremors, Parkinsonian signs, slurring of speech, and increased diaphoresis. The authors suggest the term, "sciotic" for the class of drugs pertaining to basic awareness. They believe that perphenazine is likely to prove a more than useful weapon in psychiatric practice. They note that their report in no way covers a long-term assessment of this new "sciotic" agent.

Meprobamate in the Treatment of Schizophrenic Patients

An evaluation of meprobamate (Miltown) in the treatment of hospitalized schizophrenic patients was undertaken by Dean M. Laird and his associates at the Worcester (Mass.) State Hospital. Diseases of the Nervous System [18:346] (1957)]. A small group of individuals was selected who were chronic nonlobotomized patients, and had been on previous drug studies. The novelty of the experimental situation sometimes associated with apparent initial improvement was not present. The patients were observed throughout the study by nurses specially trained in psychiatry. and, at intervals, by a psychiatrist. During a control period of two weeks all patients received placebos, then for

epistaxis bleeding gums abnormal diabetic and other capillary retinopathies permeability C. V. P. is a and fragility specific aid in frequently habitual and the prevention occur in threatened abortion and correction and are aggravated of capillary fault in such conditions by ... gastrointestinal bleeding

three months part of the patients remained on placebos and the others were given Miltown; finally, there was a control period of one month. Although meprobamate did not cure the schizophrenic process, it did have a beneficial effect on the patients' overall behavior. Certain individual functions were abstracted from the total rating-scale categories for analysis: (1) Motor activity changed from overactive, restless, excited behavior to quiet or normally active behavior. (2) Mimetic expression changed from incongruous or grimacing facial expression to an animated or restrained expression. (3) Hostility reaction which, in general, was of the destructive, combative type changed to a less aggressive form of behavior. (4) The patients who did show a disturb-

ance in mood, exhibiting a pessimistic or somber reaction, changed toward an optimistic or mildly pessimistic mood. (5) Symptoms of tension, anxiety and panic were allayed. As a result of the trial, it is believed that while meprobamate does not favorably influence the course of the entire schizophrenic process, it does produce changes in a number of individual signs and symptoms such as motor activity, mimetic expression, mood, hostility, and feeling. Institutionalized patients are rendered more easily manageable. Since anxiety is not a symptom which is unique to schizophrenia, the fact of the effectiveness of Miltown in this type of patient suggests to the authors its possible beneficial reaction in anxiety connected with other entities.

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Each C.V.P. capsule or each 5 cc. of syrup
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C.V.P. helps diminish increased capillary permeability, fragility, and resultant bleeding by acting to maintain the integrity of the intercellular ground substance (cement) of capillary walls. C.V.P. is water-soluble and is thus readily absorbed and utilized. Purified hesperidin and rutin are poorly soluble in water. Hesperidin itself has been shown to be inactive in a number of biologic tests, in which C.V.P. is highly active. C.V.P. provides the many active water-soluble bioflavonoid factors of the whole citrus bioflavonoid complex.

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NEWS

AND NOTES

Grants to Boston University

Boston University has received a total of nearly \$528,000 in renewal grants for specialized research projects. The awards are for various studies being conducted at the University's Graduate School and School of Medicine, under the sponsorship of Federal and local agencies.

Largest of the renewal grants is a fiveyear award of \$497,196 to G. P. Fulton. Ph.D., of the Biology Department of the Graduate School, who is directing a longitudinal study of aging under the sponsorship of the National Institutes of Health, and who also received a new appropriation of \$21,118 from the Office of the Surgeon General, Department of the Army, for a study involving the evaluation of plasma expander to be utilized in the event of a shortage of whole blood plasma. Other renewal grants include a one-year award of \$5,462 from the Massachusetts Heart Association for a study of the relationship between pulmonary embolism and heart reflexes, under the direction of Dr. J. J. Byrne of the School of Medicine. The Department of Pharmacology was awarded a new grant of \$4,230 by



SULFASUXIDINE

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A "STANDARD" IN BOWEL SURGERY

Many years of widespread use have demonstrated the importance of SULFASUXIDINE in bowel surgery. It minimizes the danger of infection by producing a low bacterial count in the gut and reduces incidence of flatulence. Normal healing is encouraged.

Available as 0.5 Gm. tablets in bottles of 100 and 1000; powder form in 1-pound bottles. Sulfasuxidine is a trade-mark of Merch & Co., Inc.



MERCK SHARP & DOHME

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MEDICAL TIMES

the National Institutes of Health for research concerning the action of pencillinase inhibitors, under the supervision of Dr. C. S. Keefer, Dean of the School of Medicine.

Leukemia in Children

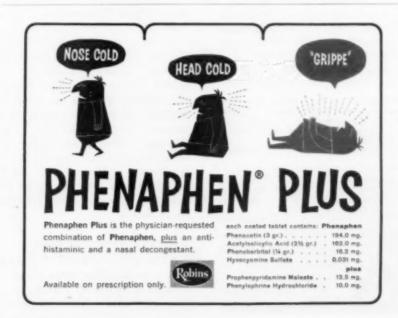
The Leukemia Society, established in 1949, has awarded a grant of \$2,500 to Dr. H. A. Waisman, Associate Professor of Pediatrics at the University of Wisconsin Medical School, to help support a research program on leukemia in children. According to the Doctor, cancer and leukemia are second only to accidents as the cause of death in children.

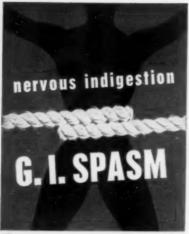
Postgraduate Courses at Albany

According to Dean H. C. Wiggers, the Albany Medical School of Union University is now offering a greatly expanded postgraduate education program to physicians in the area. During the academic year there will be twelve advance registration courses in addition to the weekly two-way radio conferences and medical clinics. The aim of the programs is to provide the best medical material with the least demands on the physician's time.

Effects of Anesthetics on Unborn Child

Dr. R. F. Becker, Department of Anatomy of Duke University, and his associates are conducting a study of the possible effects of the anesthetics and sedatives on the fetus that are given to the mother just prior to delivery. He believes that over-sedation may cause deficiency of oxygen which may, in turn, create damage to the brain. The





Convertin-H

Fortified Digestive Enzymes
WITH ANTISPASMODIC

Convertin-H fortifies gastric and pancreatic enzymes to aid digestion, and supplies an effective antispasmodic to combat the spasm.

Composition:

Each Convertin-H tablet contains:

In sugar-coated outer layer

Homatropine Methylbromide ...2.5 mg. Betaine Hydrochloride130.0 mg. (providing 5 minims diluted Hydrochloric Acid U.S.P.)

Oleoresin Ginger . . . 1/600 gr.

In enteric-coated inner core

Dose: 1 or 2 tablets with or just after meals.

Supplied: In bottles of 84 and 500 tablets.

send for samples



B. F. Ascher & Co., Inc.

Ethical Medicinals

KANSAS CITY, MO.

NEWS AND NOTES -

investigators have received a three-year grant of \$133,500 from the National Institutes of Health.

Nephrosis Research at Ohio

The Central Ohio Chapter of the National Nephrosis Foundation, Inc. has given the Ohio State University College of Medicine \$12,000 for research on nephrosis and allied kidney disorders.

Award to Dr. Hoch

The Samuel Rubin award for outstanding achievements in the field of mental health was presented to Dr. Paul H. Hoch, Commissioner of Mental Hygiene of the State of New York. He is also Professor of Clinic Psychiatry at Columbia University College of Physicians and Surgeons.

University of Tennessee Expansion Program

The University of Tennessee Medical Unit has completed a 5 million dollar building program. The addition of a seventh and eighth floor to the Institute of Pathology Building at a cost of \$600,000 will permit the expansion of research and clinical facilities for the Divisions of Medicine and Surgery. The remodeled Pharmacy Building houses the Division of Pharmacology and the School of Pharmacy. Space is also provided for a laboratory for the US Public Health Service.

Dedication of Guthrie Rock

A huge granite rock believed by geologists to be 80 million years old and to have been carried to Illinois by the Laurentide glacier has been suitably

-Continued on page 200a



Control the major symptoms

In Parkinsonism Parsidol has proved outstandingly effective for controlling tremor and muscular rigidity, the principal impairments in this disease. 1, 2

With Parsidol most patients show rapid, even dramatic improvement—both in major symptoms and in gait, posture, balance and speech. Side effects are minimal. Parsidol is compatible with all other antiparkinsonian drugs and its effectiveness may even be increased in combination or rotation with such preparations as atropine and dextro-amphetamine. Parsidol improves the patient's emotional perspective, promotes a more optimistic outlook as physical coordination and dexterity return.

Most patients can be controlled with a maintenance dosage of 50 mg. four times daily, However, more severe cases may require up to 600 mg. daily, a dosage level ordinarily well tolerated.

References: 1. Doshay, L. J.; Constable, K. and Agate, F. J., Jr.: J.A.M.A. 169:348 (Feb.) 1956. 2. Berris, H.: J.-Lancet 74:245 (July) 1954. 3. Timberlake, W. H. and Schwab, R. S.: N. Eng. J. Med. 247:98 (July 17) 1952.

PARSIDOL

bydrochloride

WARNER-CHILCOTT

Above and right are action pictures, taken from a Warner-Chikott film study, of a parkinsonian patient before and after initiation of Parsidol therapy for major tremor.



NEWS AND NOTES

-Continued from page 198a

marked by the Chicago Medical Society as a memorial to Dr. Samuel Guthrie, the discoverer of chloroform, and moved to the West Side Medical Center.

Schizophrenia Studied at Tulane

At the annual meeting of the American Psychiatric Association, a preliminary report was read on the work of a group of faculty members from the Department of Psychiatry of the Tulane University School of Medicine. In the belief that schizophrenia is the result of a biochemical deficiency, efforts are being made to discover remedial therapy. It is assumed that the disorder is caused by a deficiency in amine metabol-

ism, for the correction of which the investigators are using an extract from the septal region of cattle brain. While clinical tests of the use of the extract have been made for periods up to 18 months without untoward reactions, the Tulane group do not consider that either theory or extract have been sufficiently tested for definite conclusions. The results, however, have proved encouraging.

Immunization and Pediatrics

In a lecture, recently, Dr. Ernest Watson, Professor of Pediatrics and Communicable Diseases of the University of Michigan contrasted several conditions that existed 100 years ago with those that are found today. At present, accidents are the primary causes of death. One hundred years ago, he stated,

-Continued on page 202a

How to

help
your patients
maintain
a clean sickroom



《大学》的文化的,在中国人工程则是一个企业的人工程则是一个企业的人工程则是一个企业的人工程则

REFINED (TO ENSURE QUALITY) BENZALKONIUM CHLORIDE

ZEPHIRAN

Do your patients know how simple it is to keep a clean, disinfected sickroom and home? Zephiran quickly and easily establishes and maintains antiseptic conditions. You can specify Zephiran safely; it has no unpleasant odor and can not upset the patient, yet it helps ensure a clean sickroom – helps prevent

the spread of disease. A 1:5000 to 1:1000 solution of aqueous Zephiran to disinfect utensils and sickroom supplies may be recommended. To soak diapers and for linens, toys, furniture, a 1:10,000 to 1:5000 concentration is sufficient. Zephiran is recognized as the quality antiseptic, and it is economical, too.

CONTRACTOR OF THE PROPERTY OF

Supplied: Concentrate (12.8% buffered aqueous solution) in 4 cs. and 1 gal. bottles. For other uses Zephiran is available as tincture 1:1000 tinted, tincture 1:1000 stainless, and aqueous solution 1:1000 in 8 cs. and 1 gal. bottles.

Winthrop LABORATORIES NEW YORK 18, N. Y.

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for vaginal moniliasis, trichomoniasis or both

a new specific monlliacide MICOFUR" is combined with the established specific trichomonacide FUROXONE" in

TRICOFURON

VAGINAL SUPPOSITORIES AND POWDER

85% CLINICAL CURES. In 219 patients with either trichomonal vaginitis, monilial vaginitis or both, clinical cures were secured in 187.

71% CULTURAL CURES° 157 patients showed negative culture tests at 3 months' follow-up examinations. Patients reported rapid relief of burning and itching, often within 24 hours.

Simple two-step treatment owiftly brings relief and control of reginal monitoric and trickomoniusis.

STEP 1 Office administration of TRICOPURON VAGINAL POWDER IMPROVED at least once weekly.

STEP 2 Home use of TRICOPURON VAGINAL SUPPOSITORIES IMPROVED by the patient, 1 or 2 daily, including the important menstrual days.

*Combined results of 12 Independent clinical investigators. Data available so request. SUPPOSITORIES: 0.375% Micofur, 0.25% Furoxone.

NEW Box of 24 bullet-shaped suppositories, each hermetically sealed in green fell; with applicator.

Box of 12 wedge-shaped suppositories without applicator.

POWDER: 0.5% Micofur, 0.1% Furoxone. Plastic insuffator, 15 Gm.
RITROFURANS—a new class of antimicrobials—neither antibiotics not sulfanamide

EATON LABORATORIES, NORWICE, NEW YORK

Found "... effective in 82%
..."* of the patients observed, all of whom had tenderness and pain and some muscle spasm.

For relief of low back pain, muscular rheumatism, shoulder girdle pain, torticollis, and generalized myositis.

EX-PAS-MUS.

Potentiated Mephenesin®

EXPASMUS (Smith) is a combination of skeletal and visceral antispasmodics—with an analgesic. Specifically designed for treatment of muscular and arthritic spasm—and the painful limitation of motion.

- · RELIEVES PAIN
- · SOOTHES TENSION
- · RELAXES MUSCLE SPASM

*Skeletal muscle relaxing mephenesin physiologically potensified with an analgesic—salicylamide, and a smooth muscle relaxant—dibenzyl succinate.

*Tebrock, H. E., et al, N. Y. State J. Med. 57; 101; 1957,

Each EXPASMUS tablet contains: Dibenzyl succinate 125 mg., mephenesin 250 mg., salicylamide 100 mg.

DOSAGE: 2 to 3 tablets 3 times daily to 12 tablets daily.

SUPPLIED: Bottles of 100's.

Reprints and samples on request

Martin H. Smith Co.

131 East 23rd Street New York 10, New York

Manufacturers of ethical products for over half a century

NEWS AND NOTES .

-Continued from page 200a

33 out of every 100 children did not survive beyond the fifth year; present figures are 25 fatalities per 1,000 births. Among the "old-time killer diseases" of smallpox, diphtheria, whooping cough, scarlet fever and pneumonia, the latter was the worst. "The discovery of bacteria established the cause for most childhood infections and, in many instances, gave us serums to control diseases." However, the Doctor warned, "They will again become of epidemic proportions and cause many fatalities if routine immunizations should ever lapse."

New Army Hospital at Fort Knox

The new \$8,500,000 Merritte W. Ireland Hospital at the Army Armor Center, Fort Knox, Ky., is now in operation. The nine-story structure has a bed capacity of 500, but has been planned with the idea of increasing the capacity to 1,000 patients.

Muscular Dystrophy Grants

Allocations totalling \$165,512 to support research in muscular dystrophy and expand patient service facilities have been made by Muscular Dystrophy Associations of America, Inc., for 13 scientific studies and four clinics in widely scattered areas. Of this sum, \$74,750

-Continued on page 204a

WHO IS THIS DOCTOR?

(from page 59a)

RUDOLPH VIRCHOW

ACHROCIDIN

TETRACYCLINE-ANTIHISTAMINE-ANALGESIC COMPOUND LEDERLE

A versatile, well-balanced formula offering in one tablet the drugs often prescribed separately for treating upper respiratory infections.

Traditional and nonspecific nasopharyngeal symptoms of malaise and chilly sensations are rapidly relieved, and headache, muscular pain, and pharyngeal and nasal discharges are reduced or eliminated.

Early effective therapy is provided against such bacterial complications as sinusitis, otitis, bronchitis and pneumonitis to which the patient may be highly vulnerable at this time.

Adult dosage for ACHROCIDIN Tablets and new, caffeine-free ACHROCIDIN Syrup is two tablets or teaspoonfuls of syrup three or four times daily. Dosage for children reduced according to weight and age.

Available on prescription only.

TABLETS (Sugar-coated)

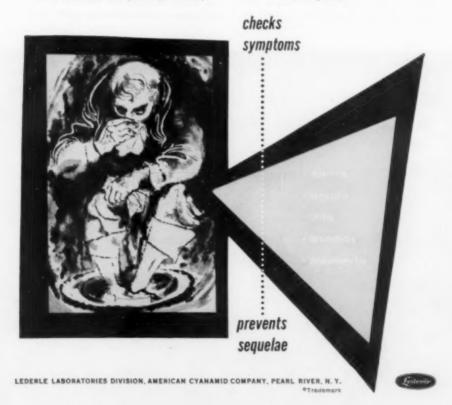
Each tablet contains:

ACHROMYCIN®		
Tetracycline	125	mg.
Phenacetin	120	mg.
Caffeine	30	mg.
Salicylamide		mg.
Chlorothen Citrate	25	mg.
Rottles of 24 and 100		-

SYRUP (Lemon-lime flavored)

Each teaspoonful (5 cc.) contains: ACHROMYCIN® Tetracycline

equivalent to	
tetracycline HCl	125 mg.
Phenacetin	120 mg.
Salicylamide	150 mg.
Ascorbic Acid (C)	25 mg.
Pyrilamine Maleate	15 mg.
Methylparaben	4 mg.
Propylparaben	I mg.
Bottle of 4 oz.	



NEWS AND NOTES

-Continued from page 202a

will be used to establish two new clinics in Cincinnati and Kansas City, Mo., and to expand services in two centers already functioning. Grants-in-aid inaugurating new lines of research have been made to the University of Wisconsin Medical School.

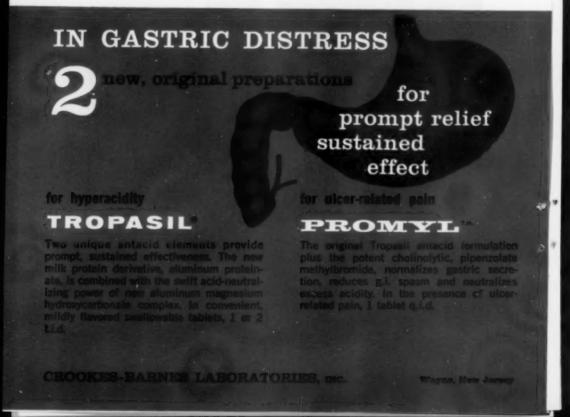
New Mental Hospital at Bronx, New York

A hospital designed to provide the latest advances in the treatment of the mentally ill is to be built by the Department of Mental Hygiene of the State of New York at a cost of 70 million dollars in the Bronx. It is the first new mental hospital to be built by the State in 25

years, and will accommodate 3,000 patients. The location adjacent to the Albert Einstein Medical Center provides the basis for a mutually beneficial arrangement. Indoor and outdoor recreation areas will be provided. Other features include a medical-surgical building, geriatric building, a diagnostic clinic, research unit, and a community center containing an auditorium, chapel, and restaurant.

James Stevens Simmons Professorship

Friends of the late Brigadier General James Stevens Simmons, M.D., have given \$150,000 toward an endowed professorship in his name at the Harvard University School of Public Health, Boston. When accumulated income on the endowment and additional gifts have



brought the fund to \$400,000, a James Stevens Simmons Professor will be appointed.

Leukemia Grants

The Leukemia Society, Inc., established to encourage research directed at finding a means for a preventive measure, control, or cure of leukemia, will award grants-in-aid for support of research on leukemia and allied diseases for the year 1957-58. The amounts awarded will depend on the requirements of the investigators. Renewal of grants at the termination of the initial period will be considered.

University of Vermont to Increase Facilities

The University of Vermont recently announced plans for its new College of Medicine building to cost an estimated seven million dollars. A Federal grant of \$419,000 has already been received.

New York University-Bellevue Medical Center

A 19-story hospital to be erected and equipped at an estimated cost of 20 million dollars will be the sixth and final unit in the New York University-Bellevue Medical Center. In the new hospital, postgraduate medical education with emphasis on the international aspects will be an essential part of the program of teaching, research and patient care.

Over a period of eight years, the Samuel H. Kress Foundation has contributed more than eight million dollars jointly to the Medical Center Building Program and the operation of the Post-Graduate Medical School. An additional



The facts behind the Burton, Parsons



COMPOSITION . . . Coating of blond psyllium refined to unique particle size and dispersed in lactose and dextrose.

RATIONALE... Supplies bulk, consisting of naturally occurring hemicelluloses which disperse with intestinal contents to form a softly compact, well formed stool of physiological consistency.

INDICATIONS . . . Chronic constipation, non-specific diarrheas, following ano-rectal surgery, and whenever normal stools are desirable.

contraindications . . . Intestinal obstruction of organic origin.

DOSAGE it.i.d. in glass of water, milk, or fruit juice (palatability unsurpassed).

for clinical trial sample packages, send to
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NEWS AND NOTES -

amount of five million dollars has recently been voted by the Board of Trustees of the Foundation toward the completion of the Medical Center, the award being contingent upon a dollarfor-dollar matching basis.

Drug-resistant Microorganisms to be Studied

Physicians in several Veterans Administration Hospitals and in the Dominion of Canada Department of Veterans' Affairs are cooperating in an inquiry into the question of drug-resistant microorganisms. From many parts of the world reports are appearing in regard to increasing numbers of organisms that have become resistant to the antibiotics. The study will begin with the staphlococci since the infections by them may easily become a serious problem in hospitals. If the factors causing the resistance can be determined, the usefulness of the drugs may be restored.

International Voice Conference

Northwestern University Medical School was host to the International Voice Conference which was attended by anatomists, physiologists, laryngologists, and voice scientists from all parts of the world. In addition to all phases of voice production, a highlight of the Convention was a symposium on the rehabilitation of laryngectomized patients. The Gould Foundation of Chicago was sponsor of the Conference.

Grants to Oregon University

The University of Oregon Medical School announces gifts and grants totaling \$105,642 in support of educational,

-Continued on page 208a

MEDICAL TIMES

NEW TOPICAL DIMENSIONS

in



Antiinflammatory Antipruritic Antiallergic Bactericidal Fungicidal Protozoacidal



action

pH 5.0

Creme) R-TAK

ACID MANTLE* · hydrocortisone · stainless tar · dijodohydroxyguinoline

In subacute and chronic dermatoses, "especially where an inflammatory reaction was accompanied by increased scaling and lichenification with secondary infection such as is seen in seborrheic dermatitis, atopic dermatitis, contact dermatitis, and neurodermatitis."

-Rein, C. R., and Fleischmajer, R.: Personal Communication.



Sig: Apply b. i. d. 1/2 oz., 1 oz., 2 oz., & 4.oz. tubes 0.5% or 1.0% hydrocartisone



OME Chemicals Inc.

NEWS AND NOTES

-Continued from page 206a

research, and service programs. \$56,088 of the amount was awarded by the US Public Health Service.

Emotional Disorders of Childhood Studied

The Kansas University School of Medicine is the recipient of a grant of \$30,528 from the US Public Health Service to be used for a three-year study of the emotional disorders of childhood.

National Heart Award

Dr. K. L. White, Assistant Professor of Medicine and Preventive Medicine, has a three-year award of \$41,975 from the National Heart Institute, U. S. Public Health Service. His project is A Study of Life Situations, Emotions, and Central Venous Pressure.

A grant of \$6,000 will be supplemented each year for five years; the recipient, Dr. C. W. Gottschalk, Assistant Professor of Medicine, will investigate micropuncture study of kidney function.

Prolonged TV Watching May Cause Leg Disorders

Prolonged sitting in awkward positions while watching television may produce serious circulatory disorders in the legs, a Philadelphia physician, said recently.

Writing in a recent issue of the Journal of the American Medical Association, Dr. Meyer Naide reported three cases of blood clots occurring in the leg vessels after the patients had sat in awkward positions watching TV. Similar disorders may occur after driving long distances in a car, especially in tall men who are "peculiarly susceptible" to such ailments, he said.

Dr. Naide recommended that television viewers get up and move about at least once an hour in addition to moving their legs frequently. Girdles and other tight garments also should be removed before prolonged TV watching.

All three patients recovered with relatively few effects after treatment with anticoagulant and vasodilator drugs.

One man sat with the back of his knee pressed against the edge of the chair for one and a half hours; another man with his leg thrown over the arm of the chair for an hour, and a woman with her leg tucked under her off and on for two hours.

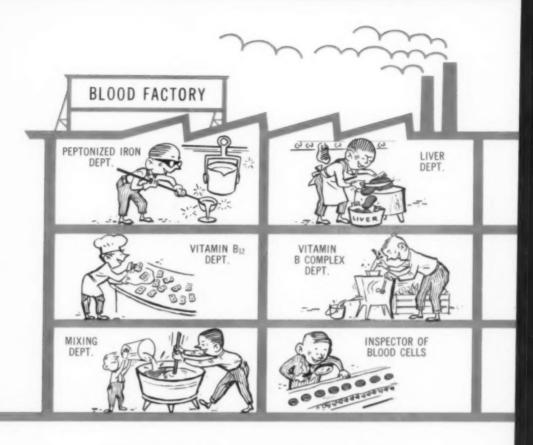
The men had venous thrombosis (a blood clot in a vein) of the leg, followed by pulmonary embolism (a condition in which the clot moves to and blocks a vessel in the lungs). The woman had a thrombosis in the femoral artery of the leg.

-Continued on page 212a

MEDICAL TEASERS

Solution to puzzle on page 53a

F	E	T	U	S		Т	R	A	C	E		C	N	S
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8	R	E	A	T	н	E	5		T	ξ	A			
A	R	T	5			A	P	N	E	A		τ	A	R
T	0	1	L		5	C	0	U	R		5	0	L	E
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R	E	0		5	4	1	P	•		8	R	U	S	ы
T	R	E		A	S	S	ε	Т		3	D	E	M	A



The preferred hematinic with PEPTONIZED iron

IVITAN

Peptonized iron is virtually predigested. It is absorbed as well as ferrous sulfate, and is onetenth as irritating to the gastric mucosa. Anemias refractory to other forms of iron will often respond promptly to Livitamin therapy.

The Livitamin formula, containing the B complex, provides integrated therapy to correct the blood picture, and to improve appetite and digestion.

васп /шиаоит	ce o	276	la.	n.				
Iron peptonis								
(Equiv. in								
Manganese ci								
Thiamine hye								
Riboflavin							10	mg.
Vitamin B ₁₂	Acti	Vi	ty				20 1	mcg.
(derived from								
Nicotinamide							50	mg.
Pyridoxine hy	ydro	eh	úο	rid	e		1	mg.
Pantothenic a	acid						- 5	mg.
Liver fraction	ı l						2	Gm.
Rice bran ext	ract					4	1	Gm.
Inositol								mg.
Choline							60	mg.

The S. E. MASSENGILL Company NEW YORK . BRISTOL, TENNESSEE . KANSAS CITY . SAN FRANCISCO



with Peptonized Iron

*Keith, J.H.: Utilization and Toxicity of Peptonized Iron and Ferrous Sulfate, Am. J. Clin. Nutrition 1:35 (Jan.-Feb., 1957).

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The S. E. MASSENGILL Company NEW YORK . BRISTOL, TENNESSEE . KANSAS CITY . SAN FRANCISCO

anti-inflammatory effects with lower dosage (averages 1/3 less than prednisone)

The Achievements of

Aristocort

hormonal effects associated
with all previous corticosteroids

- No sodium or water retention
- No potassium loss
- No interference with psychic equilibrium
- Low incidence of peptic ulcer and osteoporosis

Aristocort is available in 2 mg. scored tablets (pink), bottles of 30, and 4 mg. scored tablets (white), bottles of 30 and 100.

The Achievement in Skin Diseases: In a study of 26 patients with severe dermatoses, ARISTOCORT was proved to have potent anti-inflammatory and antipruritic properties, even at a dosage only 33 that of prednisone.1... Striking affinity for skin and tremendous potency in controlling skin disease, including 50 cases of psoriasis, of which over 60% were reported as markedly improved2...absence of serious side effects specifically noted. 1, 2, 3

The Achievement in Rheumatoid Arthritis: Impressive therapeutic effect in most cases of a group of 89 patients4...6 mg. of ARISTOCORT corresponded in effect to 10 mg. of prednisone daily (in addition, gastric ulcer which developed during prednisone therapy in 2 cases disappeared during ARISTOCORT therapy).5

- Rein, C. R., Fleischmajer, R., and Rosenthal, A. L.: J. A. M. A. 165:1821, (Dec. 7) 1957.
 Shelley, W. B., and Fillsbury, D. M.: Personal Communication.
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- June 25, 1957.

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 Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Paper presented at Nephrosis Conference, Bethesda, Md., Oct. 26, 1957.

 J. Ibid.: Personal Communication.

 Barach, A. L.: Personal Communication.

 Segal, M. S.: Personal Communication.

 Conduction.

- Cooke, R. A.: Personal Communication.
 Dubois, E. L.: Personal Communication.

The Achievement in Respiratory Allergies: "Good to excellent" results in 29 of 30 patients with chronic intractable bronchial asthma at an average daily dosage of only 7 mg.⁶ ... Average dosage of 6 mg. daily to control asthma and 2 to 6 mg. to control allergic rhinitis in a group of 42 patients, with an actual reduction of blood pressure in 12 of these.⁷

The Achievement in Other Conditions: Two failures, 4 partial remissions and 8 cases with complete disappearance of abnormal chemical findings lead to characterization of ARISTOCORT as possibly the most desirable steroid to date in treatment of the nephrotic syndrome. 8.9... Prompt decrease in the cyanosis and dyspnea of pulmonary emphysema and fibrosis, with marked improvement in patients refractory to prednisone. 10.11.12... Favorable response reported for 25 of 28 cases of disseminated lupus erythematosus. 13

OCO ITI

OH

Depending on the acuteness and severity of the disease under therapy, the initial dosage of anistocoatt is usually from 8 to 20 mg. daily. When acute manifestations have subsided, maintenance dosage is arrived at gradually, usually by reducing the total daily dosage 2 mg. every 3 days until the smallest dosage has been reached which will supress symptoms.

Comparative studies of patients changed to Abustocort from prednisone indicate a dosage of Abustocort lower by about ½ in rheumatoid arthritis, by ½ in allergic rhinitis and bronchial asthma, and by ½ to ½ in inflammatory and allergic skin diseases. With Abustocort, no precautions are necessary in regard to dietary restriction of sodium or supplementation with potassium. Abustocort is available in 2 mg. scored tablets (pink), bottles of 30; and 4 mg. scored tablets (white), bottles of 30 and 100.



Meets all 3 objectives for care of coughs

with 1 single herbal ingredient

In treating coughs and respiratory disorders three objectives are essential:
(1) Control of the cough impulse;
(2) Stimulating natural respiratory tract fluid;
(3) Increasing ciliary activity.

Pertussin fulfills all three of these requirements with one single herbal ingredient... thyme! The pharmacodynamic influence of Pertussin supplies such necessary therapeutic elements...yet it contains no opiates, bromides, coal-tar derivatives or depressants. It is an ideal vehicle for other medications. Non-constipating. Equally effective for children and adults.

We will gladly send you a personal supply of Pertussin as well as enough for a few of your favorite patients. For your free supply, simply clip this advertisement and mail it together with your name and address to:

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Division of Chesebrough - Pond's Inc.
Department 1
440 Washington St., New York 13, N.Y.

NEWS AND NOTES

-Continued from page 208a

Dr. Naide also mentioned an earlier report of 21 sudden deaths from pulmonary embolism in persons in or leaving English air-raid shelters during World War II. The cause was venous thrombosis in the legs, resulting from long periods of sitting on chairs or benches with the edges compressing the veins.

Dr. Naide is associated with the Woman's Medical College of Pennsylvania and the Albert Einstein Medical Center, Philadelphia,

Intent of Suicide Attempt Influences Treatment

The distinction between a suicide and an attempted suicide should be based on the intent rather than the outcome of the act, three Yale University psychiatrists said recently.

They believe that an attempted suicide is not really an effort to die. Rather the person hopes to bring about a change in his life through the effect of the attempt on the people around him.

Even if the person killed himself, the act would still be an attempted suicide, because he had some "desired effect" other than death.

A suicide, according to the doctor, is an act in which the only "desired effect" is death. Although the person fails to kill himself, the act would still be a suicide because he desired only death, the doctors said.

The distinction between an attempted suicide and a suicide is useful in deciding how to treat persons who try to will themselves, the doctors said in a re-

-Continued on page 216a

RING BELL AND •
WALK IN



She returns to report . . . full antacid benefits

-no antacid penalties

After you prescribe ALUDROX, you can expect to enter such a report as this in your follow-up record: "Acid neutralization free of drawbacks." For ALUDROX avoids systemic or other handicaps. It avoids laxation (its content of milk of magnesia is right). It avoids constipation (its content of aluminum hydroxide is right). It avoids alkalosis. It avoids acid rebound. And it solves the problem of taste resistance.

In short, ALUDROX outmodes trouble-making antacids. Fresh-flavored, smooth-textured, it encourages patient cooperation. Its formula (one part milk of magnesia, four parts aluminum hydroxide) is the choice of many physicians for fast and prolonged acid neutralization, constipation-inhibiting action, and soothing protection. ALUDROX keeps antacid trouble out of your practice.

TABLETS

SUSPENSION

ALUDROX°

Aluminum Hydroxide with Magnesium Hydroxide

Wyeth

®
Philadelphia 1, Pa

to neutralize, not penalize

when you encounter gastrointestinal genitourinary infections

for all tetracycline-amenable infections, prescribe superior

SUM



respiratory infections

infections





miscellaneous

infections

In your patients, SUMYCIN produces: 1. Superior initial tetracycline blood levels-faster and higher than ever before - assuring fast transport of adequate tetracycline to the site of the infection. 2. High degree of freedom from annoying or therapy-interrupting side effects.

> Tetracycline phosphate complex equiv. to

Squibb Tetracycline Phosphate Complex

tetracycline HCI (mg.)

Packaging:

Sumycin Capsules (per Capsule)	250	Bottles of 16 and 100
Sumycin Suspension (per 5 cc.)	125	2 oz. bottles
Sumycin Pediatric Drops (per cc20 drops)	100	10 cc. dropper bottles
Sumycin Intramuscular with Xylocaine®	100	1 dose vials

SQUIBB

Supply:



Squibb Quality-the Priceless Ingredient

NEWS AND NOTES

-Continued from page 212a

cent issue of the Archives of Psychiatry and Nerology, published by the American Medical Association.

They studied 44 persons brought to the New Haven (Conn.) Hospital emergency room after they had attempted suicide.

Of these only eight had no "desired effect" from the attempt other than death. Seven of these were hospitalized, seven were diagnosed as psychotic and all eight were among the severer attempts (in the sense of place and method of the attempt).

For the other 36, some "desired effect" or change in their life situations could be found. For 34 of these, there were immediate changes in their lives which were brought about as a result

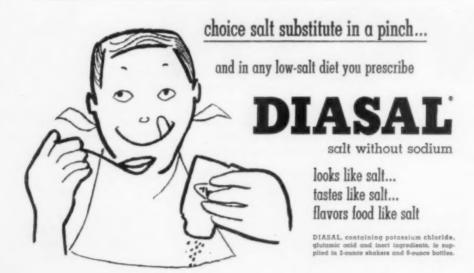
of their attempting suicide, Only 11 of these were hospitalized for treatment.

In studying these attempts, the doctors sought information about where the patient made the attempt, whether he was alone, who discovered the attempt and how.

They found a characteristic sequence of events culminating in the achievement of the "desired effects." The patient was involved in a struggle with the persons important to him and sought changes in their attitudes or his relationships with them. After a crisis was reached in this struggle, the patient sought to effect these changes through a suicide attempt.

The attempts ranged in severity from one woman who faked an attempt to a man who drove 200 miles, locked himself in a hotel rom and shot himself in the head. The first was obviously an

-Continued on page 218a





PALSIED PATIENTS "LIVE AGAIN"

COGENTIN

rated the best single drug for the palsied patient

- Well tolerated and markedly effective, COGENTIN "should be added to the treatment program of every patient with paralysis agitans." ²
- COGENTIN gives symptomatic relief in all types of parkinsonism—whether postencephalitic, idiopathic, or arteriosclerotic.
- Cogentin provides highly selective action such as no other current drug affords.² It is often of benefit in rigidity, muscle spasm, even in severe tremor.³ The contracture of parkinsonism is relieved and posture is improved.³
- With the help of COGENTIN, therapy with tranquilizers can often be continued in patients in whom trembling would otherwise force reduction or withdrawal.⁴

As COGENTIN is long-acting, one dose daily may be sufficient.

Supplied: as 2 mg. quarter-scored tablets in bottles of 100 and 1000.

M. Clin. North America 38:485 (March) 1954.
 J.A.M.A. 162:1031,
 1956.
 J.A.M.A. 156:680, 1954.
 4. Yale J. Biol. & Med. 28:308, 1955/56.



for over 47 years the outstanding dependable choleretic evacuant digestant...

TOROCOL

a free bile flow, more comfortable digestion and bowel regularity ... bring prompt relief from biliary distress, food intolerance, and constipation ... improve patient's well-being.

Torocol tablets contain: bile salts, ext. cascara sagrada, phenolphthalein, oleoresin capsicum, oil peppermint.

write for Torocol samples

The Paul Plessner Company

NEWS AND NOTES

-Continued from page 216a

attempt aimed at effecting a change in the family's attitude. The second was a suicide in that the man took every precaution to avoid being found and stopped by family or friends. He wanted only death.

The authors are Drs, Robert Rubenstein, Rafael Moses and Theodore Lidz of the department of psychiatry, Yale University School of Medicine, New Haven, Conn.

Response to Shots Gives Clue to Emotions

A child's response to having a shot is a good clue to his emotional maturity, a Milwaukee pediatrician said recently.

A study of 133 children, ranging from tiny babies to 12-year-olds, who underwent 328 shots, showed changing responses as they grew older, Dr. Karl E. Kassowitz said in a recent issue of Journal of Diseases of Children.

He said the many shots and vaccinations that children must routinely undergo offer an excellent means for studying their psychology and measuring their maturity.

All children must learn self-control and develop pride in their "toughness," he said. Their reactions to shots show how well they have developed these traits.

During the first six months of life, children have no emotional response to have a shot. From the end of the first year through the fourth year, there is the greatest amount of "more-or-less violent and resentment."

From the fifth year on there is a

-Continued on page 220a

MEDICAL TIMES

for sure antibacterial control

in urinary tract infections

mandelamine

It's effective against almost all types of urinary tract organisms... controls even antibiotic and sulfonamide-resistant bacteria. Yet, Mandelamine is not an antibiotic! Mandelamine won't sensitize patients... no resistant bacterial strains develop... side effects are minimal. Mandelamine is one of the safest of all drugs for prolonged use, and—happily for patients—costs far less than other antibacterial agents!

safe for long-term use for all ages

Supplied in Hafgrams® (0.5 Gm. tablets), 0.25 Gm. tablets, and pleasantly flavored Mandelamine Suspension for pediatric use. Adults take an initial daily dose of 4 to 6 Gm., and can be maintained on 3 Gm. daily indefinitely. Children need as little as 1 Gm. daily. (Mandelamine Discs, for quick identification of Mandelamine-sensitive bacteria, available from your laboratory supply house.)

Nepera Laboratories, Morris Plains, N. J.

MANDELAMINE

Brand of methenamine mandelate

safe and effective for chronic urinary tract infections



NEWS AND NOTES-

-Continued from page 218a

steady decline in fighting. After the eighth birthday fighting becomes the exception, and self-control and pride in being able to take the shot are the rule.

In fact, lack of self-control after the age of eight to nine may be considered a clue to an underlying emotional disturbance, Dr. Kassowitz said.

Cancer Unit at Maryland

At the University of Maryland School of Medicine and College of Physicians and Surgeons approximately \$18,000 has been spent in preparing an area in the University's Psychiatric Institute for the utilization of a radioactive cobalt-60 unit for cancer therapy. The facility, to

to be known as the Martha V. Filbert Radiation Unit, was made possible by a \$35,000 gift from the Filbert Foundation.

Rubella-Pregnancy Study Shows Lower Rate of Deformities

German measles (rubella) in the first three months of pregnancy does not cause nearly as many congenital malformations as has been thought, a new study has shown.

In fact, the rates of such malformations reported in earlier studies are "fantastically high and incorrect," because the studies were fallacious in design, three New York public health researchers said in a recent issue of the Journal of the American Medical Association.

-Continued on page 222a



SULFASUXIDINE.

A "STANDARD" IN BOWEL SURGERY

Many years of widespread use have demonstrated the importance of SULFASUXIDINE in bowel surgery. It minimizes the danger of infection by producing a low bacterial count in the gut and reduces incidence of flatulence. Normal healing is encouraged.

Available as 0.5 Gm. tablets in bottles of 100 and 1000; powder form in 1-pound bottles.



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DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.

When the bronchial tree has too much "bark"

make cough MORE PRODUCTIVE, LESS DESTRUCTIVE

"Significantly superior" 2 cough therapy for "markedly" reducing the severity and frequency of coughing,1 for increasing respiratory tract fluid,1 for making sputum easier to raise,3 and for relieving respiratory discomfort.4

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Ethical Pharmacouticals of Marit since 1878

References:
1. Blanchard, K., and Ford, R. A.:
Clin. Med. 3.961, 1936. 2. Cass, L. J.,
and Frederik, W. S.: 2.844, 1951.
2. Mayes, R. W., and Jacobs, L. S.:
Dis, Chest 30.441, 1956. 4. Schwartz,
E., Levin, L., Leibowitz, M., and
McGime, J. P.: Am. Pract. & Digest
Treal, 7.585, 1956.

Robins

ROBITUSS

Antitussive-Demulcent-Expectorant: Glyceryl guaiacolate 100 mg. and desoxyephedrine hydrochloride 1 mg. per 5 cc.

Robitussin with Antihistamine and Codeine: Same formula as Robitussin, plus prophenpyridamine maleate 7.5 mg. and codeine phosphate 10 mg. per 5 cc. (Exempt narcotic)

For proved immunization against ivy, oak and sumac poisoning



Published reports^{1, 2} have conclusively demonstrated the effectiveness of Oral-Ivy in the prophylaxis of poison ivy dermatitis.

The prophylactic regimen should begin at least 6 weeks before the poison ivy season.

The following directions are on the bottle label:

To be taken by mouth for prevention of ivy poisoning:

DOSE-

Five (5) drops in 1/4 glass of water, milk, or fruit juice daily before breakfast for at least six weeks before the poison ivy season. Then three times a week during the poison ivy season.

 Gross, E. R.: Desensitization to Poison lvy. Med Times, 84:921 (Sept.) 1956.
 Gross, E. R.: An Oral Antigen Preparation in Prevention of Poison lvy Dermatitis. In press.

MILDERM

Research Laboratories, Inc.

PHILADELPHIA 7, PENNSYLVANIA

NEWS AND NOTES

-Continued from page 220a

The new study, along with several other recent studies, indicates a malformation rate of only about 12 per cent as opposed to earlier studies which showed rates ranging up to 100 per cent, the researchers said.

An accompanying Journal editorial said, "The fact that the chances that the infant will be normal in spite of the mother's infection are much better than was formerly thought seem's a valid reason not to interrupt the pregnancy. Most observers agree, however, that the wisest course is to see that all girls get rubella in childhood."

Myasthenia Gravis Treatment Center

Patients in Western Pennsylvania suffering from myasthenia gravis are now able to attend a new treatment center at Mercy Hospital, Pittsburgh. The center operates under the auspices of Mercy Hospital, the University of Pittsburgh Medical School, and the Myasthenia Gravis Foundation. The clinic helps physicians treat and diagnose cases, test new drugs, and study causes of the disease.

Genetics Department at Wisconsin University

The University of Wisconsin Medical School has established a new Department of Medical Genetics. The Department will remain closely affiliated with the existing Department of Genetics in the College of Agriculture. It will be concerned with fundamental aspects of genetic biology which relate to medicine.

-Continued on page 224a

MEDICAL TIMES

"Functional vomiting

should be carefully distinguished from organic vomiting. Grave consequences may follow if evidences of organic derangement . . . are masked by treatment designed to control SAFE vomiting alone."1

Safety First in emesis therapy

Prescribe

(Phosphorated Carbohydrate Solution)

EMETROL will not suppress symptoms arising from organic etiology. It controls vomiting of functional origin quickly.

Dosage: Adults, 1 or 2 tablespoonfuls; infants and children, 1 or 2 teaspoonfuls, as often as every 15 minutes. Always administer undiluted, and forbid oral fluids for at least 15 minutes after each dose. Even if first dose is not retained, continue administration. If vomiting is not controlled within one or two hours, look for organic etiology. For individual dosage regimens in various indications, please send for literature.

1. Bradley, J. E .: Mod. Med. 20 M, N.



KINNEY & COMPANY, INC. Columbus, Indiana

-Continued from page 222a

and consist of a training program and research using microorganisms, laboratory animals, and man.

Two-Month-Old Babies Need Polio Shots

Polio shots for infants as young as two months were recommended recently in a guest editorial in the Journal of the American Medical Association.

At present shots are generally begun at six months of age. However, several groups of researchers have found that many infants lose the immunity with which they are born before they reach six months.



You design it... We print it!

DESIGNED CASE HISTORY FORMS, AT JUST ABOUT STOCK FORM PRICES.

You design your form in rough pencil sketch — we refine it to a finished product.

Only we, the makers of famous "Histacount" products, have the know how and organization to render this service at such low prices.

You must be satisfied, or your money back — no obligation.

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PROFESSIONAL

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14 HISTACOUNT BUILDING
NEW HYDE PARK, N. Y.

Dr. Lauri D. Thrupp, chief of the poliomyelitis surveillance unit of the U. S. Public Health Service's Communicable Disease Center, Atlanta, Ga., said the American Academy of Pediatrics has recommended beginning the shots at two months. The third shot should follow the first two by at least six or seven months.

During 1956, attack rates of paralytic polio were highest in one-year-old children and the largest proportion of cases occurred in the under-five-year age group, Dr. Thrupp said, Preliminary data for 1957 indicate that a comparably high proportion of paralytic cases is occurring in pre-school-age children.

Anticancer Compounds

Contracts with six research organizations for production of new, potential anticancer compounds were announced recently by the Public Health Service.

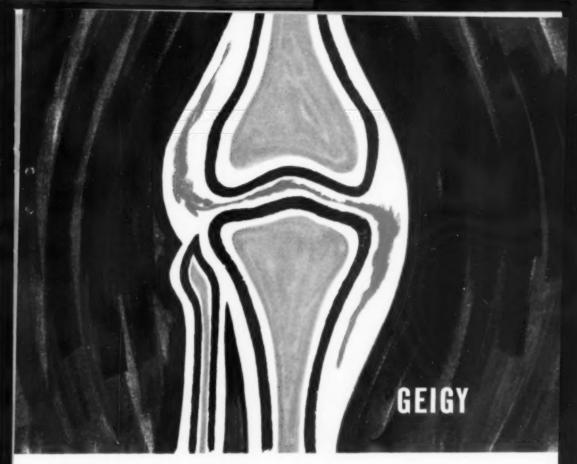
The Service's National Cancer Institute at Bethesda, Maryland, said that chemicals to be synthesized under these contracts are designed to interfere with the growth of cancer cells in various ways.

One group of compounds, known as antimetabolites, inhibits the growth of cancer cells by blocking certain metabolic reactions (life processes). These compounds resemble needed chemicals and are accepted by the cells. However, they differ from the needed chemicals enough to interfere with the cells' metabolic processes of self-repair and self-reproduction.

Laboratory tests have shown that when cancer cells use certain antimetabolites, cell repairs are faulty and the cells either fail to grow and multiply, or they die,

-Continued on page 226a

MEDICAL TIMES



NOW-in arthritis and allied disorders a new form

BUTAZOLIDIN° alka

capsi

Provides the potent anti-inflammatory, analgesic and antipyretic action of BUTAZOLIDIN plus an added antacid-antispasmodic effect for the benefit of patients with gastric sensitivity.

nonhormonal · anti-inflammatory · anti-arthritic

BUTAZOLIDIN being a potent therapeutic agent, physicians unfamiliar with its use are urged to send for detailed literature before instituting therapy.

BUTAZOLIDIN* Alka: Capsules containing Butazolidin (phenylbutazone GEIGY) 100 mg.; aluminum hydroxide 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

BUTAZOLIDIN® (phenylbutazone GEIGY): Red coated tablets of 100 mg.

not an amphetamine, but an oxazine specifically for weight reduction

PRELUDIN

(brand of phenmetrazine hydrochloride)



2 511 510 419 418 417 416 415 414 413 412

Chemically and pharmacologically different from amphetamine, PRELUDIN is a potent appetite suppressant having minimal C.N.S. stimulating activity.

reduces the problems of reducing.— PRELUDIN produces satisfactory weight loss with little or no undesirable side actions such as insomnia or "jitteriness." ¹⁻³ Hence, PRELUDIN can often be administered where other appetite suppressants are rejected.

facilitates the treatment of complicated obesity—PRELUDIN may be used in cases of moderate hypertension, chronic cardiac disease or diabetes.**

[1] Barnes, R. H., & Fragrem of Therapeutic Supports in Obtairs, Scientific Enhant, Josh Ann. Meet. A.M.A. New York, N.Y. June 3-7, 1957. (2) Naterwison, A. L. Am. Frant. & Digest Treat 7, 1956. (3) Genom, E. P., Micharde, T. H., and Kenigsberg, S. Am. J. Digest. Dis. 1.155, 1956. (4) Holf, J. O. S., Hr. Dallas M. J. 42, 497, 1956. (5) Assister, C. J.A.M.A. 188, 135 (Sept. 14, 1957.)

 $\label{eq:problem} \textbf{PRELUDIN**} \cdot \text{(brand of phenmetrazine hydrochloride)}. Scored, square, pink tablets of 25 mg. Under license from C. H. Boehringer Sohn, Ingelheim.$

original silhouette hand cut by Moc

GEIGY

the path to

effective ulcer therapy

with few side effects



	Atropine	Anticholinergic A	Anticholinergic B	PATHILON
Daily Dose No. patients and length of follow-up	1.6 mg. 37 11 mo.	400 mg. 27 13 mo.	120 mg. 16 9 mo.	200 mg. 21 11 mo.
Results: Good to excellent Fair to poor	51% 49%	74% 26%	56% 44%	76% 24%
Recurrences: None Few Same	16% 46% 38%	22% 48% 38%	13% 50% 38%	19% 57% 24%
Complications: Hemorrhage Perforation Obstruction Surgery needed	5% 0% 0% 3%	7% 4% 4% 4%	19% 0% 0% 6%	9.5% 0% 0%
Side effects: Oral Visual Sphincter	38% 11% 11%	78% 48% 15%	25% 6% 0%	14% 0% 0%

Available in three forms: tablets of 25 mg., plain (Pink) or with phenobarbital, 25 mg. (Blue), and parenteral, 10 mg./cc.-1 cc. ampuls. Desage: a or a tablets before each meal and at bedtime. Parenterally, so to so mg, every 6 hours.

Also available: PATHIBAMATES Meprobamate with PATHILON LEDERLE, for gastrointestinal disorders and their "emotional overlay."

After Cayer, D.: Prolonged anticholinergic therapy of duodenal ulcer, Am. J. Digest. Dis. 1:301 (July) 1956.

"Rog. U.S. Pat. Off. "Tradount



in anticholinergic therapy...
weigh the benefits against the side effects



LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

NEWS AND NOTES

-Continued from page 224a

The Stanford Research Institute. Menlo Park, California: the Southern Research Institute, Birmingham, Alabama; the Medical College of Virginia. Richmond, and The Monadnock Research Institute, Inc., Antrim, New Hampshire, will prepare various kinds of antimetabolites for evaluation as anticancer drugs.

Synthesis of hormonal substances constitutes another promising avenue of cancer research, the National Cancer Institute pointed out, Both male and female sex hormones hinder the growth of cancer cells by changing the hormone environment which the cells need in order to continue reproducing.

The Upjohn Company, Kalamazoo, Michigan, and the University of Chicago will produce new hormonal substances in quantities sufficient for laboratory studies and clinical trials.

The chemicals to be synthesized by the six research organizations will be tested against three types of animal Any of the hormonal substances that show promise will be used in clinical studies which hospitals throughout the country are conducting in cooperation with the National Cancer Institute.

Polachek Foundation Grants

The John Polachek Foundation for Medical Research, New York, a nonprofit, nonsectarian organization recently made four medical research grants

-Continued on page 228a

In treating the constipated patient

... therapy should be directed toward symptomatic relief as well as control of often coexistent biliary disease and faulty absorption. Patients suffering with biliary or hepatic disorders in whom there is a decrease in the flow of bile are generally constipated.



CHOBILE

Chobile is a logical treatment for biliary constipation. It increases motility of the intestinal tract, helps prevent stool dehydration by maintaining colon water balance. Each Chobile tabule contains 11/2 gr. Cholic acid plus 11/2 gr. Ketocholanic acids.



Decatur, Illinois

Upper Respiratory Infections

(FLU...COLDS...GRIPPE...SORE THROATS)

in Infants and Children

CONTROL FEVER...ACHES AND PAINS HEADACHE...GENERAL DISCOMFORT

TYLENOL

pediatric antipyretic-analgesic

Tylenol is an effective and accepted relief measure for virus infections including influenza, common colds, adenovirus—and the host of other upper respiratory diseases.

It makes the patient more comfortable...quickly.



TVLENOL acetaminophen

NEWS AND NOTES

-Continued from page 226a

totaling \$29,700. The Foundation, established by the late John Polachek, annually makes grants to physicians and holders of doctors' degree in the basic sciences to enable them to engage in research in the fields of the cardiovascular, arthritic, and allied diseases in the New York City area.

V.A. Research

Hardening of the arteries and resulting heart attacks and strokes are under study in three major research projects announced by Veterans Administration recently.

The work, which is under way at 14 VA hospitals, will test whether long-

term treatment with anti-bloodclotting (anticoagulant) medications or special diets can prevent recurrence of heart conditions and strokes in patients, VA said.

The studies are to evaluate these treatments for reducing crippling effects and the number of deaths.

About five years are expected to be required for completion of the research, VA said.

In one study, anticoagulant drugs will be administered to about 300 patients who have had the type of heart attack known as coronary thrombosis, in which blood clots develop in the arteries of the heart. In another study, anticoagulants will be given to about the same number of patients who have had strokes, or blood clots in the brain vessels.

In the third study, special diets will be used for patients with the type of hardening of the arteries known as atherosclerosis, in which fat-derived materials are deposited in the walls of the arteries.

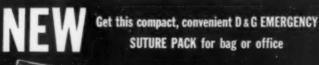
Both coronary thrombosis and strokes usually are accompanied by atherosclerosis.

Diets to be used are a formula containing a vegetable oil believed to reduce the amount of the fatty substance, cholesterol in the body, foods that have unsaturated instead of saturated types of fats, and foods low in fats of any kind.

Unsaturated fats are the oils, such as olive and corn oil. Saturated fats are the solids such as butter, oleomargarine, and the fats on meat.

Special laboratories for the studies have been established at the VA hospital in Durham, N. C., under direction

-Continued on page 230a





REVOLUTIONARY! SIMPLE! STERILE!

JUST STRIP OPEN ... SLIP OUT STERILE INNER ENVELOPE

- . No lars or solutions
- No clumsy glass tubes to break.
- No nicted sutures or adhering glass splinters
- Sterile needle suture ready for use in seconds

bruier year D.A.O. CHE MICEOUT SUTURE PACE In van year Surgical Supply Deader ... or IIII out and small coupus Street to us.

STradeora &



Contains Six D & G Needle Sutures In Individual, Quick-Opening SURGILOPE SP* Srerile Strip Packs.

Compact, plants on a waith hor - 3½° 0.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245° 1.245°

ICAN CYANAMID COMPAN

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Producers of Davis & Geck Brand Sutures and Vim Brand Hypodermic Syringes and Needles. In Canada: North American Cyanamid Ltd., Montreal 16, P. Q.

American Cyanamid Company, Surgical Products Division, Danbury,
Connecticut. Please send me_____Emergency Suture Packs,
quantity

at \$4.00 each. Bill me through my nearest SPD Dealer, or the SPD Dealer I have listed below.

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NEWS AND NOTES.

-Continued from page 228a

of Dr. Harvey Estes, and at the VA hospital in Brooklyn, N. Y., under direction of Dr. Max Bovarnick.

The Durham laboratory will make tests of the amounts of cholesterol in the blood of patients for the diet study.

The Brooklyn laboratory will check the uniformity of tests made in the VA hospitals for determining the effect of anticoagulant drugs on clotting of blood. Other laboratory work for the projects will be done at each of the participating hospitals.

Patients in the studies will receive the benefits of all standard therapies for their conditions, in addition to the special treatment being evaluated during the entire five-year period, VA said. Chairman for the heart study is Dr. Richard V. Ebert, professor of medicine at the University of Arkansas and consultant to VA.

Chairman for the study of strokes is Dr. Thomas L. Auth, chief of the neurology division at VA central office in Washington, D. C.

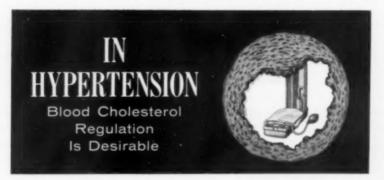
Chairman of the diet study is Dr. James Warren, professor of medicine at Duke University and consultant to VA.

New Dental Program at Harvard

Made possible through a grant of \$162,000 from the US Public Health Service, the Harvard School of Dental Medicine has launched a five-year postdoctoral study program "designed to enable young dental graduates to broaden their professional experience by

-Continued on page 232a





Patients with hypertension develop atherosclerosis more rapidly and at a younger age than people with normal blood pressure. It is also known that clinical hypercholesteremia is associated with increased atherosclerosis and that many hypertensives show elevated cholesterol levels. For example, in one study including 120 patients with high blood pressure, hypercholesteremia was found in 44% of the hypertensive group.

The consensus of opinion today is that elevated cholesterol levels should be reduced or prevented, and it has been amply demonstrated that this can be done very well by adding linoleic acid and vitamin B_{ϵ} to the diet. In scores of patients with hypercholesteremia, and particularly in patients with vascular disease, diets high in linoleic acid produced improvement. ^{4,5} Vitamin B_{ϵ} is apparently necessary to convert linoleic acid into the primary essential fatty acid, arachidonic acid. Thus the body is dependent on an intake of both linoleic acid and vitamin B_{ϵ} for normal cholesterol levels. ^{6,7}

This is why ARCOFAC (Armour Cholesterol Lowering Factor) provides both linoleic acid and vitamin B₆ in adequate amounts. As little as one dose a day lowers high blood cholesterol while allowing the patient to eat a balanced, nutritious and palatable diet.

Each tablespoonful (15 ml.) of Arcofac emulsion contains:

Essential fatty acidst 6.8 Gm. (measured as linoleic) with 2.5 I.U. of Vitamin E*
Pyridoxine hydrochloride (Vitamin B₁) . . 0.6 mg.

- † Derived from safflower oil which contains the highest concentration of unsaturated fatty acids of any commercially available vegetable oil.
- Added as Mixed Tocopherols Concentrate, N.F.
 References 1-7 from the 1956-57 literature supplied on request.

Arcofac

Armour Cholesterol Lowering Factor



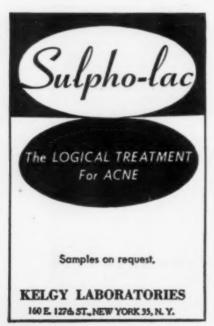
THE ARMOUR LABORATORIES A DIVISION OF ARMOUR AND COMPANY - KANKAKEE, ILLINOIS

WHAT'S YOUR VERDICT?

(From page 35a)

The Supreme Court sustained the trial court's ruling, holding: "The granting or refusing of a continuance is within the sound discretion of the trial court, and refusal to grant a continuance does not constitute reversible error unless an abuse of discretion is shown."

Based on decision of Supreme Court of Oklahoma



NEWS AND NOTES -

-Continued from page 230a

developing competence in research, gaining teaching experience, and increasing their proficiency in the care of patients." Dr. Roy O. Greep, Dean of the School of Dental Medicine, pointed out that never before has there been on the national scene, a greater awareness of the magnitude of dental health problems and the need for their solution through dental research and preventive dentistry. Also, in other parts of the world where restorative dentistry is less readily available, attention is focused on American contributions to dental science.

New Post for Dr. Perl

Dr. Edward R. Perl, Associate Professor of Physiology at the State University of New York Upstate Medical Center, has resigned to accept a similar post at the University of Utah Medical School. While at Syracuse, Dr. Perl did basic research in reflex behavior in the spinal cord, and studied sensory mechanism in the central nervous system.

Poliomyelitis Studied at Syracuse

Dr. Paul F. Wehrle, Assistant Professor of Pediatrics at the State University of New York Upstate Medical Center, has issued a progress report on his studies of the transmission of polio virus conducted under a three-year grant from the US Public Health Service. According to him, persons who have had Salk vaccine can still become infected with polio virus and carry it for some time without apparent harm to themselves, He discovered almost the same level of virus in the intestinal tracts of

-Continued on page 234a

MEDICAL TIMES

NEW PET INSTANT

... a truly modern nonfat dry milk offering new help to the physician in the management of many special dietary problems

High in protein, low in cost, and—when reconstituted—with only half the calories of whole milk, new PET Instant meets the needs of the physician in many special-diet cases.

Its exclusive instantizing (mixes faster than you can stir) and its superior flavor make it more acceptable to the patient than nonfat dry milk has ever been before.

For both physician and patient, it can mean a more successful diet, more effective results, more pleasantly accomplished.

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Appetizing flavor. Never powdery or watery—always deliclously fresh tasting.

NEW PET INSTANT

NONFAT DRY MILK

Copr., 1958, Pet Milk Co.

NEWS AND NOTES

-Concluded from page 232a

immunized and nonimmunized persons. However, Salk vaccine has proved to be effective in preventing serious paralytic polio, and, the Doctor believes, it is most important for everyone to receive Salk vaccine.

Dr. Wehrle's research has led to the isolation of two different viruses which appear to produce an illness that closely resembles poliomyelitis without paralysis. Further time and study are necessary to learn more about the disease and a means of prevention.

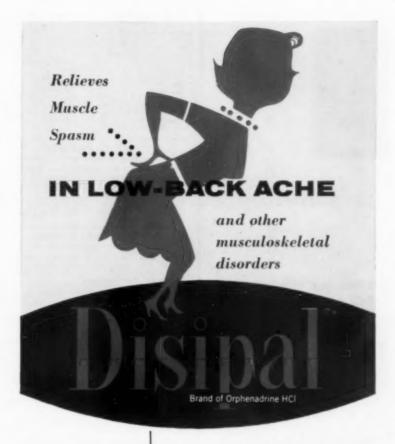
Grants to Chicago Professional Colleges

During the period from May to September 1957, the Chicago Professional Colleges received grants totaling \$529,553 for research and training. Of this amount, \$334,854 was contributed by the US Public Health Service.

Anatomy Research at Baylor

The Department of Anatomy and Biochemistry, Baylor University College of Medicine, Houston, Texas, recently received \$80,000 from the U.S. Public Health Service to further their research programs. An additional \$37,800 will be granted for each of the two subsequent years. The objective is to train anatomists and biochemists by providing an opportunity for medical students to obtain training which might serve to recruit them for teaching and research positions. The grants will also enable the departments to attract postdoctoral and senior research fellows in cancer biology and biochemistry and to train research assistants and technical personnel for positions in cancer research.





In Parkinsonism

Highly selective action ... energizing against weakness, fatigue, adynamia and akinesia... potent against sialorrhea, diaphoresis. oculogyria and blepharospasm ...lessens rigidity and tremor... alleviates depression...safe... even in glaucoma.

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In muscle spasm due to sprains, strains, herniated intervertebral disc, fibrositis, noninflammatory arthritic states and many other musculoskeletal disorders, the first demand is for relief. Disipal fills this need. It is quickly effective in skeletal muscle spasm almost regardless of origin. Its moodalleviating effect braces the patient against the depression so often accompanying severe pain of any type. • Dosage: 1 tablet (50 mg.) t.i.d.

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THE PERFECT PROFESSIONAL OFFICE & HOME DECORATION

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Suitable as collectors items, for home or office decoration. Wide variety of styles and sizes. Prices range from \$4.75 to \$74.95. The jar pictured above sells for \$23.65.

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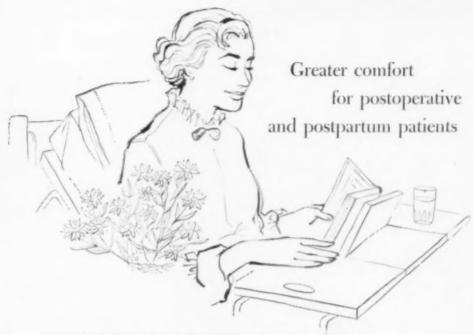
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abdominal distention and urinary retention
can often be prevented or promptly relieved
— with less need for uncomfortable enemas and catheters

Urecholine.

Chloride Bethanechol Chloride)

'Urecholine' helps restore normal function after surgery and childbirth by increasing the muscular tone of the gastrointestinal and urinary tracts. Postoperative "gas" pains can frequently be prevented or promptly relieved—with less need for uncomfortable enemas, intubation, and suction apparatus. Micturition is facilitated—without the discomfort and risk of infection inherent in catheterization.

> Administration and dosage: may be given prophylactically or therapeutically after surgery or childbirth. Usual oral dosage: 10 to 30 mg, three or four times daily. Usual subcutaneous dosage: 5 mg, three or four times daily.

Other indications: gastric atony and retention following vagotomy and other surgical procedures; chronic functional urinary retention due to atony without obstruction; megacolon, including congenital megacolon (Hirschsprung's disease); certain cases of paralytic ileus; to counteract side effects of antihypertensive ganglionic blocking drugs.

Supplied: 5 mg. and 10 mg. tablets, bottles of 100; 1-cc. ampuls containing 5 mg. Urecholine is a trade-mark of MERCK & CO., INC.



MEDICAL TIMES, MARCH, 1958

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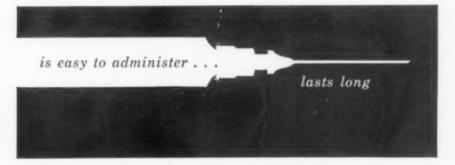
¹Brusch, C.A., et al.: Md. State Med. J.; 5:36, 1956.

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PALATABLE creamy pink, fruit-flavored CREMOMYCIN is pleasant tasting, readily accepted by patients of all ages.

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